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China Report

AGRICULTURE



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20 March 1984

CHINA REPORT

AGRICULTURE

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JOURNAL EXPLORES AGRICULTURAL ECONOMIC RESULTS

Kumming JINGJI WENTI TANSUO [INQUIRY INTO ECONOMIC PROBLEMS] in Chinese No 10,
20 Oct 83 pp 34-37

[Article: "Some Views on Agricultural Economic Results"]

[Text] Since the 3d Plenum of the 11th CPC Congress, the party and government have mapped out a new road for economic construction which has as its base the improvement of economic results. This is a major achievement which was gained by summarizing the experiences and lessons of economic construction in China since liberation. The 12th CPC Congress and the 1st Session of the 16th National People's Congress both clearly made continual improvements in economic results the prerequisite for achieving the goals of economic construction in China by the end of this century, and called for work in all areas to center on the improvement of economic results. But how can improvement of economic results be transformed into more effective activities? I will discuss some personal viewpoints below, with particular emphasis on agriculture.

I. The Question of Evaluating Economic Results

The evaluation of economic results should include both the measurement and analysis of economic results. The two are closely related, but there are some differences.

Economic results are measured by comparing input and output to reflect the magnitude of economic results. There are many types of comparative methods which can be used. For example, consumption of live labor and materialized labor can be compared with the amount or value of output, consumption of live labor and materialized labor can be compared with the net income produced by the labor, or consumption of live labor can be compared with the net income produced by the labor and so on. Therefore, there can be many measurement indicators, all of which use calculation of input and output to show the level of economic results. Their economic implications are different, however, and different indicators can be selected according to the needs of research and analysis.

Analytical indicators for economic results analyze the level of economic results reflected by measurement indicators in technological and economic,

static or dynamic and other aspects. Examples include analyzing per-mu crop yields in terms of the amount of seed planted per mu, the amount of fertilizer applied per mu, the amount of water used for irrigation per mu, the amount of labor saved by machine work per mu and so on. In this instance, per-mu crop yield is a measurement indicator which reflects the amount of production per unit area of land. Land is a primary input factor in agricultural production. All other indicators are analytical indicators, because they analyze one aspect of the number and condition of the technical or economic factors used in achieving specific economic results. Measurement indicators and analytical indicators should not be confused in economic analysis. It is inappropriate to substitute analytical indicators for measurement indicators.

One group of analytical indicators are macro-level indicators which analyze economic results from the standpoint of the national planned economy. In agricultural production, some examples are total amount of output, total value of output, the completion rate for agricultural production plans, the percentage of marketable agricultural products and so on. To distinguish them from other analytical indicators, this group of indicators can be independently classified as "objective indicators." For example, total agricultural output is an analytical indicator in agricultural production. Improvement of economic results will be reflected in increased total output, but this is not a precise indication of economic results. First of all, in terms of societal demand, we must see if increased total output is suited to increased societal demand. If increased production of a particular agricultural product exceeds the limits of national or social demand, then it not only does not provide greater economic results to society but can instead create new problems in storage, processing, transportation and sales, pricing and other areas. Secondly, changing conditions of the utilization of productive resources and production prices following increased output must be examined. If the excess consumption of productive resources exceeds the benefits of increased production, then economic results will decline. Therefore, when evaluating economic results, this type of purposive indicator should be viewed from the correct perspective. It reflects the level of economic results to a certain extent when evaluating economic results, but it is definitely not a measurement indicator. For example, in agriculture, a comprehensive indicator of agricultural productivity can be used for measurement of the overall economic results of agricultural production. This indicator is calculated by comparing the total production costs of agricultural production with total output or the total value of production from agricultural production for a country or a region. The total costs of agricultural production include the costs of direct inputs of productive resources, as well as the costs of various forms of expenditures for state assistance to agriculture, the costs of expenditures by the state in agricultural scientific research, extension, education and so on. This indicator is a measurement indicator which reflects the productive efficiency of agriculture as a productive sector and can be compared with overall productivity of the other productive sectors within the national economy.

Evaluation of the economic results of each production sector of the national economy requires the use of measurement indicators, analytical indicators and purposive indicators to form a system of indicators for evaluation of the economic results of that sector. We feel that in order to permit comparability of data on the economic results of each production unit within the same production sector, and to facilitate the long-term accumulation of data for an analysis of the trends in economic results, state statistical and planning departments and responsible professional departments should do joint research to formulate a unified system of indicators for evaluating economic results in each production sector. They should adopt similar indicators and engage in the measurement, reporting and analysis of economic results. In evaluating the economic results of agricultural production, for example, I feel that we can make evaluations using per-unit area yields (or value of output), annual output (or value of output) per laborer, capital productivity, costs per unit of product, net production rates for agricultural labor (the ratio of net value of agricultural production and consumption of live labor), overall agricultural productivity and other measurement indicators; the multiple-cropping index, resource substitution rates, rates of production increase for new technologies, feed conversion rates, labor utilization rates, intensity of mechanization and other analytical indicators, and total agricultural output (or total value of output), agricultural net income, percentage completion of agricultural production plans, percentage of marketable agricultural products and other purposive indicators. This forms a system of indicators for evaluating the economic results of agricultural production. I feel that calculation and analysis of economic results are an important area of work in modernized economic management and that the definition of evaluation indicators is the basis of this work and requires our attention.

II. Evaluation of Economic Results Must Emphasize Several Types of Economic Relationships

Listed below are several of the primary economic relationships which require research:

1. The relationship between microeconomic and macroeconomic results

Microeconomic results refer to the economic results of economic activities in socialist enterprises. Macroeconomic results refer to the overall economic results of society as a whole under the guidance of national plans. A socialist economy has the planned economy as the primary factor and market regulation as a secondary factor. Every enterprise, unit and individual manager must make their products suit the needs of national construction and market demand according to state directions and policies for production. This is a common and fundamental requirement for economic results by a socialist society. Microeconomic and macroeconomic results embody the relationship between the state, the collective and the individual in terms of economic interests. The interests of the

three are basically the same, but differences are unavoidable and often occur. For example, due to price increases for flue-cured tobacco for a certain period in the past, flue-cured tobacco production was beneficial for increasing peasant incomes. Thus, output increased, followed by the springing up of small cigarette factories in all areas. In terms of a single region, the establishment of large numbers of small cigarette factories can integrate raw material supplies, processing and product marketing and can lead to increased incomes for tobacco farmers and higher revenues over a small area. However, this development leads to insufficient supplies of raw materials for large cigarette factories with relatively large-scale and fairly good technical equipment and technological levels. The result is that workers and equipment are idled. They cannot fully utilize their technical superiority, supply economical and high-quality products, better meet the needs of consumers or create even more economic results for society as a whole. Thus, although micro-economic results are the foundation of macroeconomic results, they must be subject to restriction by the latter. The superiority of the socialist economy lies in the fact that when there is a contradiction between micro-economic results and macroeconomic results, the state can make the required readjustments in a timely and effective manner in order to achieve the goal of guaranteeing the interests of producers while not causing damage to the interests of the state. This leads to a smoother and healthier development of the national economy and also permits rapid improvements in the economic interests of the people.

2. The relationship between output (or value of output) and economic results

Socialist production is commodity production, and a socialist economy is a commodity economy. Under the effects of the law of value, economic results are manifested not only in increased output but, even more importantly, in increased profits. Consumption of a unit of labor must not only result in more material goods but, more importantly, should result in greater net income. If economic results are not emphasized in production, then the situation can appear in which, despite increases in the amount or value of the output of material goods, the increased costs of their production exceed the benefits of the increase in production. The result is that costs exceed income. Thus, the actual economic results decrease rather than increase. This type of situation was common in agricultural production in the past. Therefore, output (or value of output) must be well-integrated with economic results. Economic results cannot be sacrificed in the pursuit of higher output, nor can consideration only be given to economic results without making the greatest effort to fulfill the quantities and qualities of products needed by the state. The consumption of a certain amount of productive resources requires the achievement of the greatest possible use-value and value. This is a requirement for economic results in all branches of production.

3. The relationship between technical and economic results

The main avenues to improved economic results are reliance on the application of science and technology in production and strengthened economic management. Technical results refer to the degree to which technical needs can be attained by adoption of certain technological measures. An example is the degree to which weeds are eliminated from fields by using a certain type of chemical herbicide. This is the technical result of this type of herbicide. When using a certain type of mixed feed for feeding livestock, a more rapid increase in body weight is a technical result of this type of feed. Changes in technical results are restricted by natural laws. The laws of changes in technical results must be clearly understood before it is possible to achieve greater economic results. For example, in applications of chemical fertilizers over a certain period of time, if there are no basic changes in production or technical conditions, then each additional input of one unit of fertilizer will not bring about equal increases in production. In the beginning, the increased production from inputs of each unit of fertilizer will increase at an increasing rate; after reaching a certain limit, although continued inputs of units of fertilizer can still result in increased output, the rate of increase in production from each unit of fertilizer input will increase at a decreasing rate, up to the point where the input of a unit of fertilizer does not lead to any increase in production. At this time, total output has reached its highest level. The output attained by application of this unit of fertilizer is also called a marginal output of zero. If there are further applications of fertilizer, then output can fall as a result. This is a law of change in the technical results of fertilizer utilization. This law is illustrated by a large amount of experimental data. Technical results and economic results are two closely related but different concepts. Technical results take into consideration the relationship between fertilizer and the amount of product obtained, while economic results consider the quantitative relationship between fertilizer consumption and the production gains. In production, under conditions of unlimited supplies of fertilizer, when the expense of the last unit of fertilizer used equals the gains from increased production, then the economic results of fertilizer utilization are maximized, and the amount of fertilizer applied is also the most appropriate fertilizer utilization amount. Thus, close attention to changes in technical results is essential for full and rational utilization of all productive resources and for achieving the goal of improved economic results. In the past few years, the electronics industry in capitalist countries has developed rapidly. China is now actively utilizing electronic technology in all sectors of the national economy. It can reduce energy consumption, increase productivity, tap the potential of goods and materials, raise product quality and so on. In the utilization of improved varieties in agricultural production, such technologies have played an especially obvious role in increasing production. For example, upland nonglutinous hybrid rice can increase yields by 100 jin per mu. "Lu 1" cotton can increase per-mu yields of lint cotton by 30 jin, and "Xushu 18" summer potato yields reached 3 to 4 thousand jin per mu, a 1-2,000 jin increase over China's average

potato yields of 2,000 jin and so on. The development and application of science and technology can greatly improve economic results, increase the amount of output and raise quality. This is the key to improving economic results.

4. The relationship between rates and economic results

Rates refer to the rate of growth of the total value of industrial and agricultural output. Development of a national economy requires a certain rate. For a long time, however, there has been a failure to integrate closely the requirements of the rate of development of the national economy with the need to improve economic results, to the extent of superficially pursuing high rates of economic construction while ignoring or even sacrificing economic results. This caused the rate of increase in national income to be lower than the rate of growth of the total value of industrial and agricultural output, and the rate of increase in the people's standard of living was also lower than the rate of increase in national income. We have begun to pay attention to the past methods of emphasizing the rate of development while neglecting economic results since the 3d Plenum of the 11th CPC Congress. However, looking at the national economy as a whole, we have still not established the correct relationship between rates and results. For example, the total value of industrial output in China increased by 7.7 percent in 1982. The total value of agricultural output increased by about 11 percent, and the total value of industrial and agricultural increased by 8.7 percent. This exceeded the 7.2 percent growth rate required for quadrupling output in 20 years, but there were only slight improvements in economic results, and state planning requirements were far from being met. We will be unable to achieve the strategic economic development goals proposed by the 12th CPC Congress if we do not resolve the question of the relationship between rates and economic results in ideology and in actual work.

Stressing economic results is a key point in the development of the national economy. In principle, rates and results should be identical, because what we require is a high rate on the basis of economic results. High rates cannot endure without economic results because they, in essence, do not enhance the economic strengths of society, can harm the economic strengths of society at times and in the end can lead to an inevitable decline in the rate of development. In contrast, if results are pursued without consideration to rates, then these results will become greater economic strengths and will promote increased national accumulation. In the process of economic development, when there is a basic identity between rates and results, then a partial or temporary contradiction between the two will invariably occur. At this time, rates should conform to the demands of results, and rates should be established on the basis of economic results at all times.

In order to achieve greater rates and greater economic results, then the development of production must be suited to the various requirements of national economic development. First of all, the quantity, quality, types and specifications of products must suit the needs of society. Only in this way will they be marketable, causing an even higher value

of output and an even greater growth in economic results. For this purpose, various forms of inspection and supervision systems should be established to put an end to the superficial pursuit of rates, decreased product quality and the practice of obtaining illegal profits. Second, there should be organized, planned and proportional production according to the needs of society. A production rate with fairly high economic results has a prerequisite of conforming to each type of proportional relationship. Such relationships include, in microeconomic terms, the proportional relationships within each sector and, in macroeconomic terms, the proportional relationships among agriculture, light industry and heavy industry, the proportional relationship between accumulation and consumption and so on. The third is to make great efforts to adhere to socialist conservation principles and to utilize fully and rationally all productive resources during production. Only then is it possible to decrease rather than increase costs and achieve benefits from improved economic results, while at the same time causing production to increase. The fourth is to give full play to the role of science and technology and to improve management and administration in order to attain the goal of increasing both rates and results.

When dealing with each of these types of relationships, if we resolutely take economic results as the primary aspect of a contradiction, then there will be rational motivation in the initiative of all sides. The result will be the achievement of rapid development of the national economy with the requirement of improving economic results.

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PROBLEMS OF COMMODITY GRAIN PRODUCTION ANALYZED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY]
in Chinese No 10, 1983 pp 15-16

[Article by Nong Yan [6593 1484]: "Protect the Production of Old High-Output
Commodity Grain Districts"]

[Text] China's agriculture is in the midst of profound change, glowing reports of which are pouring in. In 1981 national grain production totaled 650 billion jin, and in 1982 output reached 706.88 billion jin, surpassing the 700 billion jin mark for the first time since the founding of the People's Republic. Thus it can be said that China has entered a new phase.

Old high-output commodity grain districts make decisive contributions to China's grain production, especially commodity grain. For example, in 1981, 344 counties each provided more than 100 million jin in commodity grain. These, which comprise only 14.81 percent of the total number of counties in the nation, still account for 49.7 percent of all grain sales to the state in excess of procurement quotas. In these counties, the ratio of the agricultural population to cultivated land is 1.38 mu per capita, which is 0.02 mu less than the national average of 1.4 mu. Yet this production produces an average of 1,033 jin, which is 253 jin higher than the national average of 780, and sells an average of 247 jin to the state, which is 124 jin more than the national average of 143. In addition, there are 229 other counties that contribute less than 100 million jin of commodity grain yet whose agricultural population sells more than 200 jin of commodity grain per capita, which sales amount to 9.9 percent of the national total; produces 1,072 jin of grain per capita, 292 jin more than the national average; and sells 283 jin per person, 140 jin more than the national average.

These two types of counties, which total 573, are the areas in which commodity grain production is concentrated and which constitute China's grain production bases. The counties account for 44.6 percent of national grain output and 59.9 percent of all sales above procurement quotas. These figures demonstrate that the old high-output grain districts are the pillars of, and make important contributions to, China's commodity grain production. Consequently, we must protect these districts' grain production and resolutely preserve their grain-sown areas. Only when we insure that land suited to grain is so planted can we withdraw other, not so suited land for afforestation or herding purposes.

A new situation, however, has recently arisen. Production is increasing more rapidly in the original medium- and low-output districts--the new commodity grain districts, while in the old high-output grain districts, production has risen more slowly, even stagnating or declining. One-hundred seventy-eight counties in the nine large, commodity grain production regions produced less grain in 1981 than in 1978, and their per capita output declined by 2 percent. For example, grain production fell 18.8 percent in the 16 counties of the Taihu basin and 5.5 percent in the 18 counties on the Zhu Jiang delta. This situation warrants careful attention.

The main factors behind the slowing or stagnation of production growth in the old high-output commodity grain districts are the great disparity between grain and cash crop prices and the low profitability of grain cultivation.

1. Grain production costs have steadily risen. A survey of an old commodity grain district revealed that its production costs were 3.4 fen per jin of grain during the 1950's, 3.9 fen during the 1960's, 5.08 fen during the 1970's and have now reached 7.43 fen. On average, cost expenditures for each mu of grain increased from 18.2 to 83.54 yuan. Consequently, the profitability of grain cultivation naturally experienced a corresponding decline.

2. The price ratio between grain and cash crops is irrational. There is great disparity between the per-mu net income from grain and cash crops. Surveys conducted by the pricing departments of Shandong Province indicate that the net income per mu for wheat is 10.17 yuan; for corn, 28.41 yuan; cotton, 158.25 yuan; peanuts, 68.84 yuan; and cured tobacco, 116.98 yuan. According to a national survey of the effects of tax reduction, the net per-mu income of six types of grain averaged 11.16 yuan, yet that of eight types of cash crops reached 50-115 yuan, three to eight times greater than the former. This means that the net income from a single mu of cash crops is equal to that of four to nine mu, and even more, of grain.

3. The system of reward sales of chemical fertilizer and other products is irrational. Some cash crops enjoy chemical fertilizer rewards, grain price differentials, profit returns and other subsidies. Thus the actual return these crops earn far exceeds their market prices. Grain on the other hand, receives very few chemical fertilizer rewards and other subsidies. For example, chemical fertilizer is nationally distributed as rewards and supplements every year in the following fashion: for jute and bluish dogbane, 170,000 tons; cotton 1.7 million tons; tobacco, 180,000 tons; and sugar crops, 420,000 tons. For grain, however, no such subsidies are provided in the plan. In a certain province, various administrative levels provided chemical fertilizer rewards for 74 different goods produced by agricultural sideline occupations. Grain, however, received no such reward. Of the 1 million-plus tons of chemical fertilizer used in that province, grain production received only 200,000 tons, or one-fifth. According to statistics from a prefecture in another province, the sale of 1 dan of cotton is rewarded with 70 jin of chemical fertilizer, and each jin sold beyond this quota earns an additional bonus of 2 jin of grain; 100 jin of peanuts are rewarded with 50 jin of chemical fertilizer and 48 jin of soybean cake fertilizer; and, depending on the grade, 1 dan of tobacco receives 20 to 100 jin of chemical fertilizer, and each mu

planted with that crop earns an additional 30 jin of soy cakes. Yet within fixed procurement quotas, grain sales receive no reward. Bonuses for some cash crops have in fact become extraprice subsidies.

4. Procurement quotas for the old high-output commodity grain districts are high, and grain growers receive less in price surcharges for their supraquota sales. There is much inequality in procurement quotas among commodity grain districts. New districts, which are rising faster, enjoy large production increases, face lower procurement quotas and thus their growers receive more in price surcharges for supraquota sales. On the other hand, some old high-output commodity grain districts have very good foundations, good yields and high quotas. Increasing production in these districts is difficult, and thus their growers receive less in supraquota price surcharges. For example, sales contracted at the basic parity price comprise 63.5 percent of the total amount of grain procured from Zhejiang's Jiaying Prefecture, while surcharged supraquota transactions accounted for only 36.5 percent. Jiaying earns less income through grain price surcharges than any other prefecture in Zhejiang. We must adopt appropriate economic policies in order to resolve this problem affecting the initiative of grain growers, especially those of the old high-output commodity grain districts.

We must consider each aspect of China's current condition and adopt a vigorous, stable policy to protect grain growers' income and stimulate expansion of commodity grain output. We believe that the following measures must be undertaken.

1. Readjust the chemical fertilizer sales reward system and insure supply of the means of production required by the old commodity grain districts. We must include grain production in the chemical fertilizer sales reward system and exclude from that system overstocked, unmarketable cash crops or reduce their rewards. We might consider linking grain and cotton with fertilizer, under which system growers would receive reward sales of chemical fertilizer in return for the amount of grain they sell to the state. In addition, we must insure supplies of diesel fuel, electricity and other means of production, to which we might also consider linking grain sales. Such reforms would require neither additional expenditure by the state nor increased supplies of chemical fertilizer. All that is needed is a restructuring of the present, irrational system of fertilizer reward sales. Then balanced agricultural development and, especially, increased production of commodity grain can be achieved.

2. Readjust the procurement quotas of the old high-output commodity grain districts and appropriately increase the incomes of these districts' grain growers. Raising farm prices will have great repercussions and thus must be handled cautiously. Nevertheless, we might consider appropriate reductions in the high procurement quotas of some old commodity grain districts that have contributed much to the state in the past. Such reductions would increase the proportion of supraquota grain sales in these districts and thus provide grain growers a little more income. Additionally, we could rationally set or appropriately raise procurement of crops that originally had no or very low quotas. Once such readjustments are made, the price gap between grain and cash crop can properly be reduced. In this fashion, excessive income disparity between these two types of groups can be prevented and their coordinated expansion, insured.

JINGJI YANJIU ON ROLE OF NEW HOUSEHOLD ECONOMY

HK161005 Beijing JINGJI YANJIU in Chinese No 12, 20 Dec 83 pp 42-48

[Article by Tang Mingxi [0781 2494 2569] of the Zhoukou District CPC School of Henan Province, August 1983: "Rising of a New Type of Household Economy in the Chinese Countryside"]

[Text] At present, in our countryside a new type of household economy, based principally on the system of contracted responsibilities on the household basis, has come into existence. This is something that has risen only recently and, in theory, constitutes a new concept. Its concrete contents and significance still need to be penetratingly probed and elucidated.

1. The New Type of Household Economy in the Countryside is Public Ownership Economy Based on the Household as Operation Unit

Currently, scholastic circles in our country have expressed three different views concerning the real nature of the new type of household economy. They are: 1) It is believed to be a "commune members' household economy," meaning that it is developed and gradually expanded from the commune members' self-retention" economy of sideline production economy and if a form of rural economy of a rather large scale and considerable strength; 2) It is believed to be, in effect, only that portion of economy in production and operation autonomously engaged in by commune members following contracting from the production team subsequent to the enforcement of the responsibility system, that is to say, "contract economy." It does not include "self-retention" economy or sideline production economy; 3) It is believed that household economy has a rather broad concept, that is, it includes not only the above-mentioned "self-retention" and sideline production economy and not only the contract economy but also individual economy which comes under the administrative leadership of the production team but, economically, has little or no liaison with the production team. Hence, household economy is considered to be a kind of a "composite body of many constituents."

In my opinion, none of the above three views, namely, the theory of "commune members' household economy," the theory of "contract economy," and the theory of "composite body" economy including units of individual economy can reflect the real nature of this new type of household economy. A relatively more appropriate concept should be: the new type of household economy is a combined

product of self-retention and sideline production economies with contract economy. It is a sort of public ownership economy with the household as the operation unit. This being the case, how should we explain this new concept of a household economy of the public ownership form? Concerning this, we shall try to offer an explanation from the following four aspects:

First, fundamentally speaking, the new type of household economy has the system of the public ownership of the means of production as the nucleus and foundation. It combines the principle of public ownership with household economy, which is a traditional form of economy and one which can most arouse the work enthusiasm of the agricultural producers because it embodies the principles of autonomous operation and attainment of direct benefits. From this combination, and on the logical premise of a firm insistence on the system of public ownership, a suitable production organizational form and a method of management which can arouse the enthusiasm of the agricultural producers are derived. It brings to realization a new union of the workers and the means of production, envisaging a change from their indirect union within the original scope of society to their direct union [word indistinct] the production units. This new form of union constitutes the real content of the new type of household economy.

Second, seen from the concrete structure of the new type of household economy, it is the product of an organic union of the sideline production and self-retention economies with contract economy. On account of the enforcement of the system of contracted responsibilities on the household basis, the originally conceived collective economy--which envisages such principles as the public ownership and public use of the means of production, the workers engaging in joint labor, unified operation of the production teams, and "distribution" of products to everybody--is converted to contract economy. But because the contract economy embodies the special features of the public ownership and private use of the principal means of production, and the peasant households are engaging in diversified kinds of work and operating independently, the original sideline production and self-retention economies and contract economy are melted into one body, hardly discernible one from the other. In the economic activities of the peasant household it is no longer possible to make a clear-cut distinction between that which belongs to collective labor and that which belongs to self or individual labor. The new type of household economy is a form of economy which is based on the possession and use of collectively-owned means of production and on the household autonomously engaging in production and operation. It is neither the development and expansion of the sideline production and self-retention economies of the commune members' household nor purely contract economy but is rather the product of the organic union of the two. It is the converted form of a new type of public ownership economy. Hence, it is not correct to generalize that it is commune member's household economy because to do so can not reflect the concrete change of the status of a commune member under the system of people's communes to the status of a peasant under the production responsibility system, and also fails to embody the content of contract economy. At the same time, it is also not correct to interpret this new type of household economy purely from the angle of contract economy, as the contents embodied are too narrow in scope.

Third, the new type of household economy is only a unitary body containing the ingredient of public ownership economy and is not a "composite body with diver-

sified economic constituents" including individual economy. The countryside, after enforcement of the system of contracted responsibilities on the household basis, by far the great proportion of peasant households carry on production and operation through the ownership and use of collectively-owned means of production. Still, a portion of the peasant households have withdrawn from the contracting of farmland, no longer having in their possession, or using, collectively-owned means of production. Rather, they have become households of individual economy entirely carrying on independent operations, solely relying on privately-owned working tools. Not only are their means of production privately-owned and the products of their labor privately-owned but also their production and circulation procedures are entirely independent, bearing no direct economic liaison with collective economy. This type of economy of privately-run households is in reality an economic component part within the scope of private ownership economy. If this kind of component part is included in the new type of household economy, then it will blur the nature of the new type of household economy as belonging to the realm of public ownership economy. It is true that currently, in our country, these individually-run households, in the midst of, and surrounded by socialist economy, have already lost the logical premise of generating polarization, and what is in store for them is a gradual transition to a new cooperative economy or playing a supplementary role to the public ownership economy, but they cannot be incorporated into the new type of household economy.

Fourth, the new type of household economy does not serve as an aid or supplement to the socialist public ownership economy. Rather, it is the main body of the current stage of the rural economy of our country. First, let us look at its numbers. As a result of the extensive enforcement of the system of contracted responsibilities on the household basis, at present, in over 90 percent of the areas in the countryside of our country the peasant household represents the basic production unit. Among these peasant households, around 10 percent are individual and self-run households in the private ownership category. As for the other portion of the peasant household economy belonging to the public ownership category, they exist either in the form of being owned by the production team but run by the household or in the form of being a united body joining together the features of joint ownership and joint operation. They form the main part of the rural economy in our country at the current stage, representing the basic form of rural economic units. Second, let us look at its role or functions. This new type of household economy is also the main body for the fulfillment of the rural economic plan of our country. In signing and carrying out the contracting document, and ensuring and carrying out the delivery to the state and the collective of the prescribed varieties and quantities of agricultural products, the peasant households and their united body have ipso facto incorporated their own production and operation into the state plan. The only difference is that in carrying out the plan they do not directly follow the administrative directives handed down level-by-level, but indirectly carry out the plan through enforcing, level-by-level, the responsibility system, through the signing of contracts, and through regulation by the state which employs such economic levers as prices, credit and loans, taxation and so forth. In this way, although a part of the economic activities of the peasant households are under the spontaneous regulation of the law of value, yet their main body is not placed outside the plane of socialist planned economy. What has happened

is a change in the form of acceptance of the planned control of the state, that is to say, a change from accepting, principally, planning of a directive nature to accepting, principally, planning of a guidance nature. It can thus be seen that the rural household economy is the most basic layer in the realization of the rural economic plan of our country. Hence, in socialist rural economy, household economy of the ownership system does not perform the role of aid and/or supplement but assumes a main body form playing the principal and pillar role. Individual and self-run households adhering to the private ownership system really provide the aid and serve as supplement to socialist economy.

Summing up, from the above analysis of the new type of household economy it can be seen that it belongs to the realm of socialist public ownership economy and assumes the form of being "publicly owned and run by households" on the basis of the public ownership of the means of production. The newness of this new type of household economy is first of all shown in this essence of public ownership.

2. Household Economy is a New Form of Socialist Rural Economy with Chinese Special Characteristics

That the new type of household economy in the countryside of our country is "new" has reference also to its new features when compared with other public-ownership economic forms, principally with the collective economic form of production teams under the system of people's communes. These new features are demonstrated in three aspects of production relations, forming a new "model" of socialist rural economy with Chinese special characteristics:

First, as seen in the relationships of the system of ownership of the means of production. Under the original system of people's communes, the relations of the commune members vis-a-vis land, large water conservancy facilities, large farm machines and other major means of production were established following the simple and pure pattern of "joint ownership and joint utilization." But, under the system of contracted responsibilities with the household as basis, the relations of the peasant households vis-a-vis the major means of production such as land and others are based on the concept of the ownership system being split into four sectors, namely, right of ownership, right of distribution or control, right of possession, and right of usage. This is built on the basis of a new model of the public ownership system whereby, conforming to the concrete conditions in our country, the ownership right of land is divided into four parts, that is to say, land is owned by the collective, is at the disposal of the collective, is given to the peasant household for possession or holding, and is put to use by the peasant household. This is a creation of the peasants in China in their prolonged practice in cooperative economy. Its real essence lies in the formation of a new method of union between a producer and the means of production. In a broad sense, it is the realization of an indirect union, on a society-wide basis, of the means of production with the producer. As for the peasant household under the system of contracted responsibilities on the household basis, under the logical premise of the public ownership of land and its division into four separate rights, it brings about, in the production process and in a concrete sense, the direct union of the means of production and the producer. Thus, following the conversion from indirect union to direct union,

the commune member's household has likewise been converted from being a labor constituent of the basic economic unit to being a first-grade socialist basic economic unit which possesses real economic substance and operates independently. What was mentioned above as the division into four parts of the right of ownership of land and the direct union of the means of production and the producer represents an innovation of the new type of household economy in the ownership system.

Second, as seen in the status and mutual relation of the constituent members of society in the production process. Because of the break-up of the right of ownership of the means of production, a great change has taken place in the relations between the collective and the peasant household and between the peasant households themselves. Under the system of the people's communes, the production team is society's basic production unit. It is the lowest level economic body. Subject to the administrative intervention of governments at various levels of the state, it is responsible for organizing the concrete procedure in agricultural production and operation. The relationship between the production team and the peasant household is that between the organizer or operator of production and the worker. It assumes the form of administrative subordinate relations, actually relations between a "composite body" and its "constituents" which have common interests. Between the peasant households, the relation is one of joint ownership between workers in a basic economic unit of society and between the constituents of an organization of common interests. Under the system of contracted responsibilities on the household basis, the relation between the collective and the peasant household becomes one between the owner and controller or distributor of the means of production, and the actual holder and user of the means of production and the production operator. Through contracting, the two of them not only recognize their mutually independent position and independent interests but also, according to the principle of economic interests, combine anew the four divided portions of the ownership system. On the one hand, the state and the collective, on the strength of their ownership right of land, collect an agricultural tax and reserve or deduct a retention for the collective from among the fruits of labor of the peasant households, and also impose various restrictions on the use of land and other means of production such as forbidding their buying or selling, lease or rental, use as collateral for loan, mortgage, building of residential houses on the land, inheritance, and so forth. The production team and the collective, exercising their right of disposal of the means of production, can, under suitable conditions, readjust the partition of land and fix anew the right of usage. On the other hand, the peasants, exercising their right of having possession of, and using, land, operate independently in farm production, under the guidance of the state plan and subject to the collective's unified planning. By that time, the peasant household has been converted from the original status of being a working unit in the collective economy to a relatively independent operator in agricultural production. As for the relations between one peasant household and another peasant household, they have become, inside the same cooperative economic body, two economic units of equality, mutual aid and mutual benefit, engaging in the exchange relations of the economic interests of the units.

Third, in the disposal or distribution of the products of labor. Due to the four divided parts of the right of ownership belonging separately to different

parties, the formation of autonomous power in operation, and changes in the status and reciprocal relations between the peasant households, correspondingly a change has been made in the mode of disposal or distribution of the products of labor. This change is first of all seen in form. Under the system of the people's communes, the share of the members' household in the products of labor is clearly in two parts--one part being "distributed" by the collective and the other part being directly obtained from the income of self-retention economy and sideline production economy. Under the system of contracted responsibilities on the household basis, the peasant household obtains its share of the products of labor thus: Out of the whole products of labor, it takes out a portion which it delivers to the state and the collective and retains the remaining portion as its own share. In this way, distribution takes the form of "remittance by subordinate households" in lieu of "distribution from public ownership." Moreover, another notable feature is seen in the concrete content of distribution. Because the peasant household economy possesses the status of an independent "production unit" and "operation layer," new forms of "distribution according to work" have been generated, these including "accounting according to household" and "payrent reckoned according to output."

As we know, the central demand in "distribution according to work" is that the amount of labor expended by the producer is taken as the only yardstick for determination of distribution. However, labor exists in three different forms, namely, potential, circulating and coagulated. Which posture or form should be used to measure the amount of labor expended? Obviously, the three forms must be unified and be concretely determined in accordance with conditions such as the basic special features of the production process, its degree of complexity, and the high or low effects that may be attained. Under the system of the people's communes, the production teams have universally adopted the system of work points. In the case of work points, the potential form of labor is the basis for reckoning payment, that is to say, measuring the expended labor quantity of the producer according to his labor capacity. Unfortunately, 20 years of actual practice have shown that the use of the potential form of labor as a measurement yardstick does not agree with the special features of agricultural production or with the condition of China's countryside at the present moment. This is because the long production period required in farm production and the "once over" nature of the production process determine that the actual quantity of labor input in production and labor's complex nature and effectual nature can only be centrally shown in the end product. Using the potential form and circulating form of labor to separately measure the quantity of labor expended cannot display these special features of agricultural production. Only in using the coagulated form of labor as a measurement yardstick can we show the actual effectual labor input. Moreover, since at the present moment, China's agricultural pursuits still heavily depend on manual labor, there is no way of guaranteeing that everybody has "done his best," although differences in labor capacity still do determine different quantities of labor input in the course of work. It is not necessary that those with strong labor power will definitely expend more labor power nor that those with weak labor power will definitely expend less labor power. Hence, it is not correct or scientific to measure the quantity of labor input directly on the basis of the strong or weak labor power of a household. This will only bring about evils of "everybody eating from the same big pot" or equalitarianism, which means that those

who work more do not get more and those who work less do not get less, thus impairing the producer's enthusiasm. Under the system of contracted responsibilities on the household basis, the new type of household economy provides us with a new logical premise and use of labor in its "coagulated" form as a yardstick to measure the quantity of labor input. This logical premise is: the divided use by households of the means of production, the divided household operation of production, and accounting or measuring the fruits of labor per household. This makes it possible and realistic, based on the final or ultimate quantity of output, to measure labor input and to proceed with distribution work. As a result, this gives rise to the form of payment to households reckoned according to output. This form "guarantees the state's share, retains a sufficient share for the collective, and keeps the remaining portion for the household itself." Outwardly, this form may look like "more output more income" and "percentage distribution of profits" but in reality it is payment reckoned according to a standard quantity of output, standard production expenses, and a standard quantity of labor expended. It makes use of these yardsticks to carry out the unified measurement and conversion of the various trades, households and production units in cooperative economy and combination labor bodies. Through these measurements, variations in operation results and labor consumption are determined following which "exchange at equal labor," that is to say, distribution according to work, i.e. concretely realized between the various households and cooperative units. This is a new model of distribution according to work under the conditions of the new type of household economy.

To sum up, the new type of household economy in the countryside, having now built the necessary foundation for its own system of ownership, its independent status in mutual relations and fixed modes of distribution, has formed its own stable posture, becoming a new cell in socialist rural economy and taking root in the great earth in China's countryside.

3. Building Our Country's Own New System of Rural Economy With the New Type of Household Economy as Basis.

The firm establishment of a new type of household economy in the countryside not only has rebuilt the basic unit in rural production in our country on the most basic level and realized the renovation and replacement of the cells in rural economy but also, on that basis, fostered the building up of a new rural structure in cooperative economy, which is now developing and gaining perfection.

Speaking on the new system in agriculture in his report to the 12th CPC National Congress, Comrade Hu Yaobang said: "In the countryside, the principal economic form is the cooperative economy under the working people's system of collective ownership,"..."it may be anticipated that not far in the future in our countryside there will appear...more forms of an even more perfect cooperative economy." (Footnote 1) (Hu Yaobang: "All-round Opening up of a New Situation in Socialist Modernization Construction," People's Publishing House, 1982 edition, pp 16, 17) Emphasis on the new system as being a structure of cooperative economy clearly differentiates it, in respect of the basic special features and principle of composition, from the collective economy under the original setup of people's communes. In essence, collective economy and cooperative economy are identical. They both represent the union of labor in opposition to the union of capital

First, the new type of household economy is the basic structure of the new system. This is achieved principally because of the following:

1. The new type of household economy has a relatively greater adaptability. It is adaptable to the special features of agricultural production, to our country's prolonged enforcement of the traditional practices of household operation and intensive and meticulous farming, and to the current concrete conditions in the countryside of our country. At the same time, inwardly there exist enormous production potentials of manpower, capital and utilization of technology still waiting to be tapped and put into full play.

2. The new type of household economy possessed enormous energy. In the past, lack of energy or vigor was the basic drawback of our country's rural economy. But the new type of household economy in the countryside, by means of grasping the power of use and control in the relations within the ownership system of the means of production, has, on the one hand, enabled the peasants to obtain the autonomous power of independently operating, while, on the other hand, through enforcing the form of distribution of directly linking together labor and the fruits of labor, enabled them to hold in their grasp the "distribution" or control of their own interests, thus stirring up their sense of dedication in the capacity of production operators. Because household economy enjoys the direct and close union of the three factors of responsibility, power and benefit, it has formed a rather strong extensive and cohesive force and become a basic factor with enormous vigor in the rural economic structure.

3. The new type of household economy has enormous vitality or life force. First, because the family as a social form will exist for a long time yet and family or household economy which gathers to itself both social and economic functions has many fundamental superior points, such as initiative, enthusiasm in production, and flexibility and adaptability in business, and in this respect it can hardly be compared with, or replaced by any other production unit or economic form. Hence, so long as the family system exists, rural household economy with the household as production and operation unit will not disappear. Moreover, what is more vital is that this type of household economy can accommodate or contain not only the productive force of the manual and animal power stages in the primitive agricultural and traditional agricultural eras but also the productive force of modernized large-scale agriculture. Judging from the conditions in developed countries with a relatively high-degree of agricultural modernization, socialist modern agriculture can be built on the basis of household economy. In the final analysis, what truly serves as the basis for modernized agriculture is not type of household economy existing at the current stage in our country but a type of household economy which can carry on the production of special kinds of commodities, can provide special services, is commercialized, specialized and business-minded. Therefore, this "small but comprehensive" type of household economy is our country needs to be rebuilt into a type of household economy which is "small but specialized." Only in this way can the development of socialist agriculture be facilitated. At the present moment in our countryside, the appearance, and gradual increase in number, of specialized households and households doing specialized jobs is an indication that the rural economy of our country is taking a start on the road to being "small but specialized," proceeding in the direction of development of commercialized and

specialized production. On the strength of this logical premise, the day of establishing our country's socialist modern agriculture is not far off.

Second, the vertical and horizontal system of contracted responsibilities on the household basis forms the network of the structure. The significance here is that in our countryside, we need not only a system of contracted responsibilities that extend both upward and downward in varying degrees, but also a system of economic contracts in between the economic bodies. The contract system is in reality a responsibility system, except that it is one which links together "right and left" and runs horizontally. Both of these responsibility systems have a common nucleus--that the production units and workers must fulfill their obligations and shoulder their responsibilities vis-a-vis the collective. They also have common objectives which call for increasing the economic effects, raising the labor productivity rate, and enhancing labor's income and benefits. They have common grounds concerning the various kinds of relations in the social reproduction process under the system of public ownership of the means of production--relations such as those between the workers, relations between the workers and the basic production unit, relations between the production units themselves, relations between the production unit and an even larger cooperative economic body, relations between the workers and the state, relations between the production unit and the state, and so on and so forth. All these relations they organize vertically, horizontally and in criss-cross fashion to form a composite body of network, using the varying subordinate forms of responsibility, power and interest, using the varying subordinate forms of labor, decisionmaking and results and employing the principle of downright or thoroughgoing economic benefits. This is a type of big combination of interests and also a type of big combination of labor. It can be imagined that under such a network of the responsibility system the following can be accomplished: combination of diversified operation and unified operation; combination of self-management and management by society; combination of decision-making by many levels and central decisionmaking; combination of mutual aid and mutual benefit; combination of competition and cooperation, and combination of efficiency with quality of products; all these combinations join together to form a thriving new situation of economic development. In this new situation, there are many levels of vertical contracting as well as, horizontally, various forms and kinds of combination and cooperation. It breaks up the state of affairs under the former system of there being only relations of natural economy subordinate to administrative organs. This provides a wide possibility for the development of commercialized, specialized, and socialist modern agriculture.

Third, various forms of planned management serve as the framework and supporting pillars. This is, first, because planned economy is the important and special feature of the socialist economic system. Only through dependence on planned management can the responsibility system demonstrate its correct demarcation of the interests of the state, the collective and the individual and only through reliance on planned management can the state, by means of the responsibility system, join together the economic and the entire social structure into a socialist economic body. Another reason for taking planned management as the framework of the new system is because the new type of household economy in the countryside has its limitations and these are found in the households operating separately or individually. For example, it is not con-

ductive to the use of large machinery, in production there are signs of spontaneity or blind building, and so forth. Because of the existence of non-socialist factors within these household economies, a series of measures must yet be adopted before we can ensure that household economy is taking a correct direction and a correct road to development. These measures include state's regulation and control by means of planning and other economic levers, enforcement level-by-level of the responsibility system, reciprocal restrictions by different combinations and their embodiment into the scope of the state plan and a direct link-up with the state-run economy, and so forth. Thus, the function of planned management serving as the framework is an exceedingly important matter in the building of the new rural economic structure.

The new type of rural household economy which has as its essential and special feature the public ownership of the means of production is the product of the application of the Marxist cooperative theory in China's realities and in the development of the socialist cooperative movement under China's concrete historical conditions. Its rise has brought thriving vitality to the development of China's rural economy. Development of the new rural structure built on the foundation of the new type of household economy will play a powerful and important role in accelerating the realization of a Chinese-style program of agricultural modernization.

CSO: 4007/80

JINGJI RIBAO URGES FEED INDUSTRY DEVELOPMENT PLAN

OW291317 Beijing XINHUA in English 1140 GMT 29 Feb 84

[Text] Beijing, 29 Feb (XINHUA)--Rational utilization of feed resources is an urgent task for the modernization of animal husbandry in China, the ECONOMIC DAILY, a national paper, stresses in an article.

The paper reports that China uses 35 million tons of grain and 25 million tons of bran and other grain processing by-products each year, and mixed feed only accounts for ten percent. At present, many peasants feed chickens or pigs with non-processed or roughly processed grain with tremendous waste. Scientists estimate that processing and rational utilization of grain and its by-products can raise feed effectiveness by 20 percent.

Protein feed is short, while resources of protein are wasted seriously, the paper says. China needs 12 million tons of protein feed each year to be mixed with grain feed, but only 3.5 million tons are available. At the same time, three to four million tons of cotton seed, rape seed, peanut and soybean cake, which contain 30 to 40 percent protein, are applied directly as fertilizer in fields.

The paper calls for better use of the by-products of edible oil. In addition, other protein resources such as dried blood, bone meal, fat residue, earthworms and silkworm chrysalises should be tapped.

The ECONOMIC DAILY also attaches great importance to developing fodder resources, including corn stalks, sweet potato vines and residues from alcoholic fermentation and sugar refining.

CSO: 4020/80

CHINA DAILY HAILS PRC RURAL POLICY CIRCULAR

HK250450 Beijing CHINA DAILY in English 25 Feb 84 p 4

["Opinion" column by CHINA DAILY commentator: "Timely Guidance"]

[Text] Plows are turning the soil in readiness for planting across the vast Chinese countryside. This spring, the peasants can face the future with confidence and ease of mind. An important circular on rural work this year, issued by the Central Committee of the community Party of China, has been passed on to most rural households. Peasants hail it as timely guidance to the means of winning further prosperity.

The circular, issued at the beginning of the year, clearly states that the job responsibility system will be carried on and further developed. On the basis of this, it indicates that the emphasis of rural work in 1984 will be on raising productivity in general, and on improving rural commerce and further developing commodity production in particular—in short, encouraging the peasants to produce more for sale.

Policies

It is widely acknowledged that the party's rural policies, characterized by the job responsibility system, have brought unprecedented benefits to agriculture in the past few years. Successive harvests have been abundant despite frequent natural calamities. The 1985 targets for major agricultural products have been attained two to three years ahead of time. Eight prefectures and cities and 112 counties have doubled their agricultural production value or grain output.

What is more inspiring is that an increasing number of peasant households, specializing in one or several lines of production, have become relatively prosperous through their own labour. This experience, making use of natural resources and local skills, has enhanced the capability of regional planning, which will expand rural production of marketable goods.

At the same time, new and complicated problems have surfaced. Peasants ask how the job responsibility system will continue. How contracting of land can be made more efficient? How new services and exploitation of natural resources can be funded?

Consolidate

A critical stage is approaching. If adequate solutions can be found, current progress in rural areas will be developed. Without them, there can be no consolidation and there may be setbacks.

The vital document provides guidelines with which to approach the problems.

First, it clears the doubt in people's minds with assurance that the rural job responsibility system, which the peasants have so heartily embraced, will not only continue but will be developed. Last year saw all-round progress of the system which now involves more than 90 per cent of all peasant families.

The aim of standardizing and perfecting the job responsibility system is to help peasants expand production and efficiency. Only stability will encourage the peasants to invest in land.

The document explicitly states that the term of land contracts should be prolonged, in most cases to 15 years. This will encourage contractors to take long-term measures to improve soil fertility and begin intensive farming.

Advice

Before contracts are extended, the document advises that peasants should be given the chance to adjust the size and location of their plots, if they wish. Transfer of land contracts, with the consent of the collective, should be allowed. In this way, skilled farmers can be allocated more land, which could also help to increase [several words indistinct]. "These policies will provide a surplus of and power for forestry, animal husbandry, fishery and other sideline production, as well as industry, commerce and transport. Diversified agricultural and commodity production will, in turn, be promoted.

Initial development of the diversified rural economy has shown that there are yet many tasks, if we are to match the needs of the new situation. For instance, while peasants now have more produce to sell; the state-run commercial system is far from sufficient to purchase and market all rural products. Efforts have been made, but the existing commercial facilities are still unable to cope. Fruit rots, milk turns sour, fish go bad and grain becomes mouldy in quite a few places for lack of proper storage or transport facilities. The volume of waste is appalling.

Facilities

The document stresses the urgency of reforming rural commerce. Collectives and individuals are being encouraged to purchase and market rural goods as a supplement to state outlets.

To fund new cold storage facilities, warehouses, transport and improved communications, the Central Committee of the CPC urges self-help by individuals as well as reliance on the state and collectives. Peasants are encouraged to invest in businesses or to pool their money to start new enterprises in accordance with the principles of voluntary participation and mutual benefit.

As the measures and proposals answer the pressing needs of the peasants, they have won wide acclaim. The guidelines embodied in the party document will undoubtedly help bring China's agriculture another step forward.

CSO: 4020/80

HE KANG ANNOUNCES NEW AGRICULTURAL CENTERS

OW171628 Beijing XINHUA in English 1149 GMT 17 Feb 84

[Text] Beijing, 17 Feb (XINHUA)--China plans to establish more agrotechnical promotion centers at the county level in the coming years in order to boost the country's agricultural production.

This was announced here by He Kang, minister of agriculture, animal husbandry and fishery, at a current national meeting to commend young peasants for scientific farming.

The minister said that his ministry has run such centers on a trial basis in 290 counties in various localities, integrating scientific experiments with personnel training and science dissemination.

He noted that although China had had a bumper harvest in 1983 production level was still low, and stressed that it was imperative to step up rural science and technology.

At present, China has over 1,000 research institutes in agriculture animal husbandry and fishery, plus 370,000 agro-scientists and four million peasant technicians.

Since 1979 two national natural science awards and 32 prizes for inventions have been given to agricultural, animal husbandry and fishery projects.

Minister He outlined the future tasks: to combine modern science and technology with traditional farming methods and agricultural scientific research with rural commodity production, the needs of the domestic and international market and industrial production.

Between 1980 and 1982 more than 1,000 advanced techniques and research results had been applied to agricultural production, the minister added.

For instance, the plastic-film covering technique was applied to 600,000 hectares of farmland in 1983, resulting in an average grain increase of 20 to 30 percent. Jilin Province in northeast China has nursed rice seedlings in workshops and planted them on 63,000 hectares of land, resulting in

an increase of 150,000 tons of rice in the past few years. Fish and prawn breeding techniques developed by scientists have helped increase the country's aquatic production.

In addition, fine crop strains and livestock breeds have been spread in the country on a large scale, including hybrid rice, sweet potatoes, dairy cattle, fine-wool sheep and pigs.

He Kang also called for research into rural environmental protection, agricultural engineering, farm produce processing and preservation, rural energy, bio-genetics, physiology, biochemistry and ecology.

CSO: 4020/80

WAN LI URGES YOUTH TO FURTHER AGRICULTURE DEVELOPMENT

OW171610 Beijing XINHUA in English 1439 GMT 17 Feb 84

[Text] Beijing, 17 Feb (XINHUA)--Vice-Premier Wan Li today called on China's young peasants to study advanced science and technology to meet the challenge of the rapid changes now taking place in the country's agriculture.

Addressing a meeting called to commend nearly 200 young peasants for studying and applying science, he said the current young generation in the countryside was "fully trustworthy" as an energetic, educated and less conservative force in agriculture.

Young people aged 16-28 make up 60 percent of China's 300 million rural workers. The country has a total labor force of 400 million.

Wan Li said China's agriculture was changing from a self-supporting rural economy to large-scale commodity production, and from traditional to modern farming.

Modern agriculture called for advanced technology and equipment, he said, and young peasants should broaden their horizons to arm themselves with up-to-date knowledge.

China was also curbing a vicious circle in its ecology, he said. Young people in 19 Chinese provinces last year planted 2.65 billion trees, creating new forests on 307,000 hectares of formerly barren land.

Wan Li, also chairman of the National Afforestation Committee, said he hoped young people would plant more trees in the future.

CSO: 4020/80

USE OF FOREIGN INVESTMENT IN AGRICULTURE

HK020554 Beijing BEIJING REVIEW in English No 8, 20 Feb 84 pp 18-20

[Article by correspondent Lu Yun: "Using Foreign Investment in Agriculture"-- passages within slantlines published in boldface]

[Text] China's ability to utilize overseas funds are highlighted by the analysis of satellite photographs and the successful transfer of frozen milk cow embryo, which filled in previous technical gaps. Other important projects funded through foreign capital include huge land reclamation projects, comprehensive transformation of barren farmland and an increase in urban milk supplies.

Since adopting the policy of opening to the outside world at the end of 1978, China has increased its economic and technical exchanges with other countries. So far, it has economic cooperation and technical exchanges in agriculture with more than 80 countries and regions. It has signed 91 agreements or contracts on aid and 20- to 50-year favourable loans with some United Nations organizations, international financial institutions and friendly countries. Together, these make a foreign fund of US\$606.8 million in grants, technical aid, medium- and long-term interest-free or low-interest loans and direct overseas investments (such as compensation trade, cooperative production and joint ventures). Thirty-eight of these agreements have already been fulfilled, and the remaining 53 are now being carried out. Nineteen of these are contracts to import grain stoving apparatus from the Food and Agriculture Organization (FAO) and organize survey and study tours abroad; 19 agreements are to supply food to Indochinese refugees with the World Food Programme (WFP); 16 are to set up training centres for applying satellite photo interpretation techniques in agriculture and demonstration centres for developing fodder and trial intensive production of livestock with the United Nations Development Programme (UNDP).

The International Fund for Agricultural Development (IFAD) also provided two special loans for agricultural development in Hebei Province and the development of the northern grasslands and animal husbandry.

The World Bank and the International Development Association (IDA) granted preferential loans to the first-phase of projects for agricultural education

and research, the amelioration of saline alkali soil on the north China plains and the development of Heilongjiang's grain-producing centre.

China has signed bilateral agreements on aid and loans with Australia, Canada, Italy, the Federal Republic of Germany, Japan, Denmark, Norway, Sweden and the United States.

Through the friendly cooperation of the international community, China has achieved initial results in developing its agricultural production by making use of foreign funds. /Making up the fund shortage and accelerating development of key projects and regions./ Drawing on outside support, China has set up the Buzichuan electric irrigation system in Jingyuan County, Gansu Province and completed the first phase of an electric irrigation system in Gaolan County. It made 5,500 hectares of barren farmland fertile in Xiji County, Ningxia and reclaimed another 33,500 hectares of land. The milk supply problem in Beijing, Tianjin, Shanghai, Wuhan, Nanjing and Xian has been basically solved. With the loans from the World Bank, China has reclaimed 200,000 hectares of land in Heilongjiang, transformed another 200,000 hectares of saline alkali soil in Shandong, Hebei and Anhui, prepared 40,000 hectares of land for rubber plantations and set up processing facilities. Overseas funds account for a considerable share, ranging from 34 to 60 per cent of the total investment in these large-scale development projects.

/Importing advanced technology and equipment and speeding up technical transformation of agriculture./ Beijing University of Agriculture has set up a training centre for applying the remote-sensing technology with the aid of the FAO and UNDP. It has imported this kind of technology and sponsored 14 classes to train specialists. The centre also began a general survey of agricultural resources, estimates of crop yield, forecasts of plant diseases and pests, and forecasts of soil salinity and erosion through interpreting satellite photos. Soil surveys have been conducted in five provinces and autonomous regions in this way.

With the help of the UNDP, the experimental centre in Mizhi County, Shaanxi Province, began to make rational use of its land resources on the loess plateau in 1980. It conducted experiments in three tiny valleys, combining biological and engineering treatments, with the emphasis on the first. Trying to become self-sufficient in grain by growing high-yield strains, some farmed areas have been planted to trees, with good initial results.

The Quanjiagou production brigade of Mizhi County is one example. Its ratio of farm to forest to grassland in 1979 was 14.8 to 3.8 to 1. After a preliminary adjustment, it changed to 3.3 to 2 to 1--far more rational. Per-hectare grain output increased from 1,065 to 2,047 kilogrammes, while per-capita grain went up from 415 to 543 kilogrammes. At the same time, forestry, animal husbandry and sideline production all improved. The brigade's income went up by 75 percent, with a 60 percent increase in per capita earnings. Proper land use made the area better able to cope with natural disasters. When severe drought hit Mizhi last year, there was a 30 percent drop in grain production. But in the experimental areas production fell by just 20 percent. The techniques learned from this experimentation will help in developing other loess plateau areas.

Most of the imported equipment, also bought with foreign capital, reached the advanced level of the late 1970s. The Guangzhou and Chongqing chicken farms, which were set up with aid from the Italian Government, helped change the traditional structure of sheds in China. Good-quality equipment will further popularize the import of new technology and materials, and help the farm machine manufacturers replace old machines with new ones.

Training specialists and fully using the potential of intellectuals./ In the past few years, 300 specialists have gone to survey and study abroad through technical aid programmes. A number of foreign experts were invited to lecture in China to pass on the technical know-how. The Chinese Academy of Agricultural Sciences sent scientists to Lower Saxony of the Federal Republic of Germany to study embryonic implantation. Upon returning, the Chinese successfully transferred frozen embryos of the German breeding milk cow for the first time.

The World Bank loans were spent to establish facilities for agricultural education and research. According to the plan, 18 agriculture universities, colleges and research institutes will send 633 people abroad to pursue master's and doctoral degrees or engage in continuing studies. Teaching facilities will be considerably improved, and some new subjects will be added to the curriculum. Enrolment will be increased from 18,350 to 23,500 undergraduates and from 350 to 1,900 postgraduates.

China has only recently begun to use foreign funds for agricultural development. Some big construction projects have just been started, which call for huge efforts to reach their designed capacities and be used to the utmost good.

The leadership in China's agricultural development will, within its ability, continue its active and steady economic cooperation with other countries. According to the Ministry of Agriculture, Animal Husbandry and Fishery, the international community is especially welcome to cooperate with China in the following ways:

--Continue encouraging agricultural education, popularizing research and technology and tapping the nation's intellectual potential;

--Develop agricultural projects in areas with great production potential and in poor areas in urgent need of support;

--Provide sufficient quantities of milk, meat, poultry, eggs and fish for the residents in big and medium-sized cities as soon as possible;

--Strengthen genetic development of seeds to bring forth more high-yield strains.

Improve farm and sideline product processing and methods of multi-purpose use and speed up the development of the fodder industry;

--Introduce technical reforms in key enterprises and renew equipment and products, open up new areas for agricultural development and strengthen the work in those departments regarded as weak links.

CSO: 4020/80

JINGJI RIBAO ON AID TO SPECIALIZED HOUSEHOLDS

OW231139 Beijing XINHUA in English 0804 GMT 23 Feb 84

[Text] Beijing, 23 Feb (XINHUA)--The ECONOMIC DAILY today calls for more aid to rural specialized households which devote all or a large part of their labor to commodity production and services.

In a frontpage editorial, the paper calls for "great increases in numbers and improvements in the management of the rural specialized households which now total over 20 million, or 13.7 percent of the country's rural households.

"Specialized households are not many," the paper emphasizes. "They are still too few."

It predicts that arable land will be concentrated in the hands of the best farm workers while increasing numbers of peasants turn to jobs in industry, sideline production, forestry, livestock breeding, fishery, services and transport.

"This trend of development is inevitable, and represents a progress of historical significance," the paper says, adding that fears over a rural "polarization" resulting from specialized commodity production and services by the private sector are "unjustified".

"The conditions for the emergence of a polarization--a situation in which a few possess capital and means of production to exploit others, while others lose their means of production and have to make a living by selling their labor--do not exist," it says.

"The Communist Party's policy does not permit a polarization to take place. Nevertheless, it allows some people to go first in achieving prosperity," the paper notes.

The peasants who have become better off first can help others to do the same by offering experience, funds and technology, it added.

CSO: 4020/80

REGULATIONS GOVERNING FARM, SIDELINE PRODUCTS

OW091453 Beijing XINHUA Domestic Service in Chinese 0208 GMT 9 Feb 84

[Text] Beijing, 9 Feb (XINHUA)--In order to protect the legitimate rights and interests of parties who have signed contracts for the purchase and sale of farm and sideline products, clearly affix economic responsibilities, and ensure the implementation of state plans, the State Council recently promulgated "Regulations Governing the Purchase and Sales Contracts for Farm and Sideline Products." These regulations are applicable to the purchase and sales contracts for farm and sideline products concluded according to law between persons who legally represent state farms, rural communes, and production teams; procurement centers for farm and sideline products as appointed by the state, cooperative economic organizations; and various enterprises and undertakings. These regulations are also applicable to those purchase and sales contracts for farm and sideline products signed between persons who legally represent individual households, rural commune members, and key or specialized households.

The "regulations" stipulate that in signing purchase and sales contracts for farm and sideline products, it is necessary to abide by state laws, conform with state policies, implement the principle of the leading role of the planned economy and the supplementary role of market regulation, and simultaneously take into consideration the interests of the state, the collective, and the individuals.

The "regulations" stipulate: In purchasing and selling farm and sideline products which fall into the category of state monopoly purchase and sale, it is essential to sign contracts on the basis of the targets for procurement assigned by the state (animal products in pastoral districts are based on the basic procurement indices determined by the state). As for the purchase and sale of farm and sideline products that fall into the category of negotiated prices and those farm and sideline products that can be put on the market after state procurement targets have been met, contracts can be signed by parties concerned through negotiations.

The "regulations" said: After purchase and sales contracts for farm and sideline products are signed according to law, they immediately have legal binding force. The parties concerned must strictly honor and implement them to the letter. Whoever violates a contract must pay for the breach of

contract. Additional compensation must be made if the losses incurred by the other party due to the breach of contract exceeds the amount paid.

The "regulations" establish specific stipulations on the terms of purchase and sales contracts for farm and sideline products and on the responsibilities of the buyer or seller who violates a contract. The "regulations" point out: When the signatories of a contract have disputes, they must, first of all, try to solve their disputes through negotiations. Only when they fail to do so, the parties should apply for arbitration or take legal action in the people's court.

The regulations have been made public and are effective as of 23 January. If any regulation governing the purchase and sales contracts for farm and sideline products promulgated in the past contradicts the present regulations, action should be taken on the basis of the current regulations.

CSO: 4007/80

FLEXIBLE, RELAXED FORESTRY POLICIES URGED

OW150001 Beijing Domestic Service in Mandarin 0200 GMT 14 Feb 84

[Excerpts] Today's ZHONGGUO NONGMIN BAO carried an editorial on page 1 entitled "It Is Necessary to Further Relax Our Forestry Policy." The editorial says that the party Central Committee has called for efforts to raise the ratio of this country's forest cover from the present 12 percent to 20 percent by the turn of the century. To honor this call, we will have to fulfill the task of afforesting at least 1 billion mu of wasteland in the next decade or so. This requires us to speed up afforestation work while ensuring the quality of the task of making the country green. The key to honoring this call lies in adopting flexible policies and mobilizing the people's enthusiasm for afforestation.

The editorial says: To further relax the forestry policy, we must first give the people a free hand and increase the acreage of hilly land allocated for their personal needs. Some areas have too many restrictions in allocating hilly land to people for their personal needs. They need to further emancipate the mind and should be braver in making such allocations. Next the contracting policy must be relaxed. After wastelands and waste shoals are designated for this purpose, they may be contracted out to commune members in various forms and those who have entered into the contracts will be responsible for afforestation. Third, the people must be given more power to make their own management decisions. Forestry is a business of exploitation. It takes a long time to develop and requires more labor and funds; its economic results come very slow. Our forest policy and related regulations should conform with the characteristics of forestry, and peasants engaged in forestry production should receive preferential treatment so that they will have the power to make their own decisions on production and the power to dispose of forestry products.

The editorial continues: Contracting responsibility systems in varied forms should be instituted at state forestry farms to eliminate the bad practice of "eating in the canteen the same as everyone else." People in the forest areas should be organized to protect the forests, carry out afforestation and sapling nursing, fell trees and build roads in their areas so that the people can make economic gains. This will mobilize the enthusiasm of cadres and the masses to protect the forests and afforest barren hilly areas.

The ZHONGGUO NONGMIN BAO editorial calls on all localities and leaders at all levels in the country as well as various departments to mobilize promptly and work hard to fulfill the party Central Committee's great call of making the motherland green.

CSO: 4007/80

USE OF PLASTIC FILM IN AGRICULTURE ENCOURAGED

OW191042 Beijing XINHUA in English 1030 GMT 19 Feb 84

[Text] Beijing, 18 Feb (XINHUA)—The Ministry of Agriculture, Animal Husbandry and Fishery has decided to spread the use of plastic film as an important technical measure to increase China's agricultural output.

Experiments on over 80 crops in the last few years showed that by this measure output is generally increased by 30 to 50 percent. This technique, applied on 625,000 hectares last year, brought to the state and the peasants an extra 300 million yuan.

China introduced the technique from abroad in 1979 and experimented on vegetables, cotton, peanuts, rice seedlings, sugar cane, sugar beet and many other crops. Increases can reach 450 yuan per hectare.

National survey shows that covered cotton fields can yield 225 to 375 kilograms more ginned cotton per hectare than open ones. Shandong Province alone increased its cotton output by more than 20,000 tons last year, which means an extra income of over 40 million yuan.

Experiments over 2,730 hectares of sugarcane showed that covered fields yielded 15 tons per hectare more than open fields.

Plastic covering now also ripens vegetables earlier and ensure a better year-round supply.

Experts hold that the technique can help improve the micro-ecological environment for the crops, raise ground temperature, loosen the soil, conserve moisture and keep the seedlings growing sturdily. It suits China and should be combined with traditional farming methods.

CSO: 4020/80

NATIONAL

BRIEFS

URBAN, RURAL CONSTRUCTION MEETING--Kunming, 22 Feb (XINHUA)--Construction plans have been drawn up for 32 percent of China's five million villages and 50,000 towns, according to a national meeting which closed here today. The meeting was called by the Ministry of Urban and Rural Construction and Environmental Protection to commend construction plans for villages and towns. A national contest for planning of villages and towns, the first of its kind ever held in China, began in March, 1983. More than 1,000 construction plans have been chosen. National design contests for rural houses and cultural centers will be held over the next two years. [Text] [OW222130 Beijing XINHUA in English 1505 GMT 22 Feb 84]

CSO: 4020/80

TRANSPROVINCIAL AFFAIRS

COASTAL SURVEY IN CHINA HALF COMPLETED

OW231321 Beijing XINHUA in English 1148 GMT 23 Feb 84

[Text] Beijing, 23 Feb (XINHUA)--Chinese scientists have completed a general survey of more than 9,000 kilometers of coastal zones and tidal flats, yielding rich data on the aquatic products, organisms and land and mineral resources, Yan Hongmo, deputy director of the State Oceanography Bureau, said here today.

He said, on the basis of analyses of the data obtained, a development program has been worked out for 4,300 kilometers surveyed, which cover coastlines in Jiangsu, Qingdao, Wenzhou, Shanghai, and the Pearl River estuary.

China has more than 18,000 kilometers of continental coastline, covering nine provinces and municipalities and one autonomous region from northeast China's Liaoning Province right down to Guangxi.

The survey, the first of its kind since the founding of New China in 1949, started in 1980 and is scheduled for completion in 1986. The range of survey covers areas up to 10 kilometers inland and waters as deep as 10-15 meters.

More than 10,000 people, including 400 specialists, professors and technicians, are taking part each year in the gigantic scheme launched to obtain data for rational development of coastal resources.

Yan Hongmo said the survey teams are working on another 4,300 kilometers of coastal zones and tidal flats and work on the remaining 4,700 kilometers is expected to begin sometime this year.

Coastal resources in the country offer bright prospects for the development of navigation, light industry and chemical industry and tourism, Yan said.

According to statistics from coastal areas, there are more than 1.3 million hectares of tidal flats suitable for marine farming, of which only about 20 percent have been utilized, and about 330,000 hectares of enclosed tidal flats have yet to be cultivated.

But lack of a thorough understanding of the resources and an overall development plan has resulted in an irrational development in some areas. Reclaiming land from the sea in some coastal areas has upset the natural ecological balance.

According to the State Oceanography Bureau, experimental projects on the comprehensive utilization of coastal resources have already been launched in areas surveyed in the past three years. The projects included improvement of heavy alkaline land and aquaculture.

Jiangsu Province has planted 40 kinds of salt-tolerant crops such as asparagus, Chinese walfberry and membranous milk vetch on 400,000 hectares of coastal flats for experimental purposes.

In Zhejiang Province, experiments are being made in the Xiangshan port to combine the raising of shellfish and other aquatic animals with the cultivation of aquatic plants. The coastal areas in the province are expected to become a major production center for shrimp, laver, razor clam, blood clam and kelp.

CSO: 4020/80

BRIEFS

DAIRY FARM INVESTMENT ENCOURAGED--Beijing, 28 Feb (XINHUA)--Beijing is encouraging collectives and individuals both inside and outside the city to invest in dairy farms in its suburbs, according to the municipal authorities. A municipal decision made public yesterday says that this measure aims to cope with the shortage of funds and dairy cattle, major obstacles to expanding Beijing's dairy industry. Although Beijing's milk output rose to 102 million liters in 1983, more than double the figure for 1978, there is still milk shortage, as in other Chinese cities. As life improves and tourists, both Chinese and foreign, pour into the city, most of the milk is diverted to the food processing industry and a regular milk supply is ensured only for babies, senior citizens and the weak and sick. The new method will encourage jointly-run dairy farms in various forms, such as cash and cattle investment and loans. The contributors will be given priority in milk supply. The state invested 60 million yuan (about 30 million U.S. dollars) in the city's milk production between 1978 and 1982. Around one fourth of the city's 33,500 dairy cattle are owned and raised by collective farms or individual peasants. [Text] [OW281209 Beijing XINHUA in English 1042 HMT 28 Feb 84]

CSO: 4020/80

BRIEFS

BUSINESS THRIVES--The volume of business in the urban and rural markets and fairs in Gansu Province reached 444.67 million yuan in 1983, an increase of 20.9 percent over 1982. To develop the urban and rural markets and fairs, industrial and commercial administrative departments at all levels throughout the province invested some 1.54 million yuan. According to statistics, there are 872 urban and rural markets and fairs in the whole province, of which 145 large markets and fairs have over 10,000 workers each. [Summary]
[HK081506 Lanzhou Gansu Provincial Service in Mandarin 1100 GMT 31 Jan 84 HK]

CSO: 4007/80

BRIEFS

URBAN, RURAL MARKETS--The gross volume of business of the urban and rural fairs and markets throughout Guangdong Province in 1983 was some 4,269 million yuan, an increase of 16.14 percent over 1982. [Summary] [HK091533 Guangzhou Guangdong Provincial Service in Cantonese 1130 GMT 7 Feb 84 HK]

SILK TREE MEETING--The tropical crop office of the Hunan tropical crop research institute sponsored a meeting in Hainan Island of scientific and technological workers of the agricultural, forestry, and animal husbandry departments of Guangdong, Guangxi, and Fujian Provinces. The meeting vigorously popularized silk tree seeds to solve the problems of fodder and energy resources. Silk tree is a tropical plant which produces fodder, fuel, manure, and timber. It grows rapidly and is drought-resistant. [Summary] [Guangzhou Guangdong Provincial Service in Cantonese 0030 GMT 8 Feb 84 HK]

CSO: 4007/80

SEVERE ICE STORMS CAUSE DISRUPTION, DAMAGE

HK120346 Guiyang Guizhou Provincial Service in Mandarin 2300 GMT 11 Feb 84

[Excerpts] Guizhou was hit by the worst ice storms for more than 30 years around the time of the Spring Festival. Governor Wang Chaowen pointed out at a meeting of responsible persons of industry and communications departments and bureaus on 11 February: At present, the departments concerned must do everything possible to carry out rescue and relief work, ensure smooth flow of electric power, communications, and telecommunications, and do a good job in energy and material supply work.

Governor Wang Chaowen pointed out: Around the Spring Festival, most parts of Guizhou were hit by ice storms which were the longest and most destructive since liberation. In some places powerlines or their poles collapsed, causing disruption in power supply and communications. In some places traffic could not proceed because of the icy roads. Apart from seriously affecting industrial production, this also caused many difficulties for the masses' daily life.

The departments and leaders concerned must therefore do everything possible to organize the masses to carry out rescue and relief work. At present we must seriously organize the masses to rush-repair high-tension powerlines and telecommunications lines. Where manpower is needed, the party and government leadership in the places concerned must provide vigorous support and organize rush-repairs.

Governor Wang Chaowen also pointed out: Industrial and communications production in January was not too good. Of course this was partly due to the ice storms, but was not entirely due to that. In finding out the reasons, we should not conceal contradictions in work just because the natural disaster occurred.

He stressed: The leaders and workers of all industrial and communications departments must work with concerted efforts to promote the province's economic work. In view of the effects on electric power, communications, and

telecommunications, enterprises that have the capability should further increase production, so as to recoup the losses. Motor transport should be organized to help with the tension in railroad transport. We should ensure that motive power is not affected. Special circumstances require special measures.

Vice Governor Zhang Yuhan and a responsible comrade of the provincial economics committee also spoke at the meeting.

CSO: 4007/80

BRIEFS

FARMS INCREASE PROFITS--Due to the implementation of the various responsibility systems, the 41 state farms in the whole province increased surpluses for 3 successive years. The total output of grain in 1983 increased by 7.7 percent over the previous year; pigs in stock increased by 15 percent over 1982; and the output of milk, meat, tea, and so on also increased to varying degrees. In 1983, the profits delivered to the state amounted to 1.5 million yuan and net profit amounted to 265,000 yuan. [Summary] [Guiyang Guizhou Provincial Service in Mandarin 2300 GMT 25 Jan 84 HK]

ANIMAL HUSBANDRY--Guizhou Province has increased livestock production for 4 consecutive years. The number of commodity pigs sold in the province by the end of last year was 5 million head, an increase of 2.6 percent over 1982, and the number of commodity cattle and horses sold was some 110,000 head, an increase of 9 percent over 1982. The province's gross output of meat reached some 720 million jin, an increase of 2.2 percent over 1982. Output of poultry, eggs, milk, and honey also increased. The number of specialized households and major households in the whole province which raised livestock and poultry last year reached some 67,000, an increase of some 40,000 over 1982. The 875 major livestock-breeding households raised 6,819 cattle and horses. Each household raised an average of 7.8 head. In the province, 23 counties have engaged in artificially growing grass and in sowing forage grass using planes. Now, the grass-grown areas are 273,500 mu. [Summary] [HK081505 Guiyang Guizhou Provincial Service in Mandarin 2300 GMT 4 Feb 84 HK]

RURAL SURVEY GROUPS--According to GUIZHOU RIBAO, the province's 87 counties, cities, special zones, and districts have established 488 rural economic survey groups consisting of 4,880 rural economic survey households, forming a rural economic survey and statistics network. This is a measure for reforming rural statistics work so as to suit the change in rural areas from centralized management by production brigades to decentralized management by thousands of households. The work of establishing rural economic survey households on a peasant household basis was started in 1980. Each household has an accountant to keep day-to-day income and expenditure accounts of the peasant family. Every 10 households form a survey group which has auxiliary staff for rural economic survey, who are responsible for sorting out the statistics data of all survey households, and regularly reporting to the

statistics bureau at the upper level. Statistics bureaus at and above county level will study the rural economic situation and analyze output of agricultural and sideline products in accordance with these reliable statistical data. [Summary] [HK091539 Guiyang Guizhou Provincial Service in Mandarin 2300 GMT 6 Feb 84 HK]

GRASS MOUNTAIN CONFERENCE--The conference of Hunan, Hubei, and Guizhou provinces on building grass mountains and developing animal husbandry was held in Guiyang from 10 to 15 February. At the conference, last year's experiences were summed up and exchanged and a preliminary plan for this year's work was worked out. In 1983, the state decided that 11 counties in Hunan, Hubei, and Guizhou provinces would be built into bases for building grass mountains and developing animal husbandry. To date, the 11 counties have grown grass on 140,000 mu, and on 15,800 mu of that grass seeds have been cultivated; 2,677 head of cattle and 1,657 head of sheep have been imported; and 158 kilometers of roads in pastoral areas have been repaired. [Summary] [HK281522 Guiyang Guizhou Provincial Service in Mandarin 2300 GMT 16 Feb 84]

CSO: 4020/80

INTERNATIONAL LOAN USED TO BOOST AGRICULTURE

OW181010 Beijing XINHUA in English 0645 GMT 18 Feb 84

[Text] Shijiazhuang, 18 Feb (XINHUA)--Hebei Province has achieved notable progress in transforming saline-alkaline land and building a livestock-breeding project with financial help from the International Agricultural Development Fund (IADF).

The saline-alkaline land transformation program has been carried out on 35,000 hectares in the two counties of Quzhou and Nanpi in southern Hebei with an IADF loan of 25 million U.S. dollars. By the end of 1983 the two counties had completed 2,877,000 cubic meters of earthwork, set up 27 buildings, sunk 247 pump wells and put up 140 kilometers of high-tension transmission lines in the area. They had also made progress in afforestation, animal husbandry and scientific research.

Thanks to their initial success in controlling alkalinity and salinity, the two counties had a good harvest last year in spite of drought. The 1983 grain output of these two counties was 12.5 percent and 23.6 percent higher than in the previous year, and cotton output was 49.4 percent higher and five times as much as in 1982.

The modern livestock-breeding project is being built in Weichang County in northern Hebei at 1,200 to 1,800 meters above sea level with an IADF loan of seven million U.S. dollars and 7.5 million yuan (about 3.74 million U.S. dollars) from the provincial government.

It covers an area of more than 125,300 hectares of pastureland. A dairy capable of processing one ton (about 2,000 liters) of milk a day has been put into operation, and another to handle five tons has been fitted out and will go into trial production soon.

An abattoir and a woollen mill are under construction. A newly established united stock-breeding, industrial and commercial corporation has sold 350,000 kilograms of wool to the Shanghai textile industry and supplied 300 beef cattle to Hong Kong and foreign embassies in Beijing last year.

It is planned that by the end of 1986, 50 more small grazing grounds for family use will be added to the present 18 in the project and there will be 1,000 households specialized in livestock breeding.

The herdsmen have greatly increased their income due to the construction of the project. A survey of 17 households shows that their average income last year was 6,200 yuan (about 3,100 U.S. dollars) and that their average per capita income exceeded 1,000 yuan, making them comparatively well-off.

CSO: 4020/80

BRIEFS

NEW SUGAR BEET CULTIVATION METHOD--Harbin, 27 Feb (XINHUA)--A new cultivation method which can double the output of sugar beets is being used in Heilongjiang Province, China's leading beet grower. The method, which involves sowing in hothouses, transplanting seedlings and covering young plants with paper tubes, extends the beet-growing season by a month and helps ward off damage caused by spring frosts. Last year the method was used on 220 hectares, giving an average per-hectare yield of 31.5 tons. The sugar content of the beets also increased. It will be used on 2,67 [figure as received] hectares this year. Heilongjiang Province reaped a record beet harvest of 4.5 million tons on 360,000 hectares last year, accounting for over half the country's total beet output. [Text] [LD271156 Beijing XINHUA in English 0650 GMT 27 Feb 84]

CSO: 4020/80

COUNTY PLANTS 8.61 MILLION TREES IN 1983

HK161219 Beijing RENMIN RIBAO in Chinese 13 Feb 84 p 1

[Report: "Henan's Yu County Builds a Forest Network Covering 1 Million Mu of Farmland in 1983; Its Experience Is Praised by Zhao Ziyang"]

[Text] Last year, having done a good job in sapling raising and in carrying out overall planning, Yu County of Henan Province afforested 780,000 mu of land, built 200,000 mu of forest network, and planted trees on both sides of 2,100 roads and 959 ditches. Some 8.61 million trees were planted throughout the county, a 500 percent increase over 1982. Last year, the county succeeded in building a forest network on farmland. In December last year, in his letter to the leading comrades of the Ministry of Forestry, Premier Zhao Ziyang praised Yu County for being able to build a forest network on farmland in 1 year, saying that this experience was worth emulating and popularizing. He pointed out that in popularizing the experience, we should emulate the county's down-to-earth work style.

With the exception of mountainous slopes in eight mountainous communes, the county has nearly 1 million mu of croplands suitable for planting paulownia and poplars in between them. Through investigation, the Yu CPC Committee and Government found that the deterioration of natural ecology had affected agricultural production and that lumber shortage had affected the people's livelihood. The plain and hilly land in Yu County can be planted with tens of millions of paulownia. In 10 years' time, 1 million paulownia can be felled each year, with an output value of 100 million yuan. There is great potential in forestry. Therefore, the county CPC committee and government have taken forestry as a breakthrough point and have made up their minds to implement the policy on forestry and to further perfect the forestry production responsibility system. The county CPC committee and government declared that the system of contracting farmland will remain unchanged for 15 years, that the planter will have the right to own the trees he has planted, and that the ownership right will remain unchanged for a long time and can be inherited and transferred. In distributing profits, the old 70:30 ratio has been smashed, and a 90:10 ratio is being put into effect, with the larger portion going to the planter. This has brought into full play the initiative of the masses in planting trees.

As far as specific measures are concerned, Yu County pays attention to three points. The first is raising saplings. In March last year, the county mobilized commune, and brigade-run tree plantations and peasant households to raise saplings. As a result, 4,700 sapling-raising specialized households emerged throughout the county, the sapling-raising area rose to 20,000 mu, and standard saplings amounted to 11.7 million, guaranteeing the needs of the whole county. The second is attaching great importance to planning. In 3 months, the county carried out unified tree planting assignments commune by commune, brigade by brigade, and household by household. The third is attaching great importance to planting. After wheat sowing in November, the county mobilized the people, communes, and brigades to unify planning, the type of trees, the standard for saplings, technical requirements, and the time for planting. An upsurge came in which people plunged themselves into the activity of planting paulownia. After 20 days of hard work, a forest network was built on 1 million mu of farmland.

After this, the county CPC committee and government continued to exercise scientific management over forestry work. The county is determined to profit from tree planting business in 10 years. Forest protection organizations have been set up in the county seat as well as in each village. Forest protection pacts and reward and punishment regulations have been formulated. Today, the county has built a forest protection contingent, composed of 5,000 persons, which exercises management over trees along roads and ditches.

CSO: 4007/80

AGRICULTURAL UNITS PURCHASE LIGHT AIRCRAFT

OW011347 Beijing XINHUA in English 0751 GMT 1 Mar 84

[Text] Beijing, 1 Mar (XINHUA)--The purchase of an ultralight aircraft by Henan peasants is no longer a single example of the new demand of Chinese peasants, as four agricultural units in the Beijing area have ordered six such aircraft, today's BEIJING DAILY reports.

The aircraft, designed by the Beijing Aeronautical Engineering Institute, are Mifeng (Honeybee) 2s and 3s for pesticide spraying afforestation, seeding and other farm work. They are expected to be delivered to the purchasers within the year.

The Henan peasants, from Xinxiang County in the northern part of the province, recently purchased the aircraft with 20,000 yuan (about 10,000 U.S. dollars) from their public accumulation fund and have become the first Chinese peasants ever to have their own aircraft.

The Mulin commune in Beijing's Shunyi County, the Shuangqiao farm in the inner suburbs, a plant protection station in Daxing County and an agrotechnical instruments company run by the municipal agricultural bureau have placed orders for such aircraft since last September and two other farming units in the outlying Miyun and Huairou counties also want to buy them.

Peasants in a village in Beijing's Pinggu Country also wrote to BEIJING DAILY, asking it to contact the Beijing Aeronautical Engineering Institute for the purchase of aircraft, and the institute promised to make delivery early next year.

The institute will provide two years of technical service for the buyers and has entrusted the training of pilots to the Beijing Municipal Aeronautical School.

Two such light-duty planes made a successful demonstration flight at a Beijing airfield last September, seen by observers from more than 100 units across China.

CSO: 4020/80

HUBEI

BRIEFS

GRAIN PURCHASE--Wuhan, 29 Jan (XINHUA)--By 20 January, Hubei Province had basically fulfilled its 1983 state grain purchase plan with a total of 9.6 billion jin delivered to and stored in state granaries. The stored total included the requisitioned, the amount in excess of the requisition target, and that purchased at a negotiated price. Despite serious floods and water-loggings, the province harvested a total of 38.2 billion jin of grain, an amount second only to that of 1982. [Summary] [OW052225 Beijing XINHUA Domestic Service in Chinese 0032 GMT 29 Jan 84 OW]

CSO: 4007/80

BRIEFS

PROCUREMENT WORK--Last year, of some 80 counties in Hunan Province, 41 counties each procured over 100 million jin of commodity grain. Changde and Ningxiang Counties each procured over 400 million jin of commodity grain. Last year, 40 counties each procured over 100,000 pigs. Of them, Ningxiang County procured 390,000 pigs and Changsha County procured 320,000 pigs. [Summary] [Changsha Hunan Provincial Service in Mandarin 1100 GMT 3 Feb 84 HK]

GRAIN HARVEST--Hunan's total grain output last year was 51.49 billion jin, an increase of nearly 3 billion jin over 1982. On the average, there were 900 jin of grain per person of the population, exceeding the national average of some 700 jin. [Summary] [Changsha Hunan Provincial Service in Mandarin 2310 GMT date not specified]

CSO: 4007/80

JIANGXI

BRIEFS

GRAIN PURCHASES--Jiangxi Province's 1983 grain purchases have exceeded 10 billion jin, and the grain departments estimate there are 500 million jin more to be purchased from the peasants. The 10 billion-jin purchase is a record high for the province, which is expected to transfer as much as 4.5 billion jin in support of other provinces and localities in the country.

[Summary] [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 29 Jan 84 OW]

CSO: 4007/80

JILIN

BRIEFS

GRAIN PURCHASES--Changchun, 1 Feb (XINHUA)--As of 30 January 1984, state grain purchases in Jilin Province for 1983 totalled 14,642 million jin, an all-time record and an increase of 6,088 million jin over 1982. [Summary] [OW052224 Beijing XINHUA Domestic Service in Chinese 1520 GMT 1 Feb 84 OW]

CSO: 4007/80

LIAONING

BRIEFS

TRADE FAIRS--The number of urban and rural markets has developed to 1,400 across Liaoning Province. In 1983, these markets concluded deals worth more than 1.23 billion yuan, a record high. [Summary] [Shenyang Liaoning Provincial Service in Mandarin 1030 GMT 6 Feb 84 SK]

CSO: 4007/80

PEASANTS INCREASE CONTRIBUTIONS TO STATE

HK110324 Yinchuan NINGXIA RIBAO in Chinese 31 Jan 84 p 1

[Report: "Last Year, Peasants in Our Region Made Greater Contributions to the State Than the Year Before"]

[Text] Last year, our region's peasants reaped a good harvest in agricultural and sideline production. In addition to favorable weather conditions, the party's policy on enabling the peasants to get well-off gave an impetus to their initiative in production. In addition, the good harvest was reaped with the help of various trades and enterprises. Agricultural banks and credit cooperatives in various localities provided loans for the peasants in a timely manner so that they could buy agricultural machinery and tools, chemical fertilizers, farm chemicals, and production materials. This laid a good material foundation for developing production. Agricultural science and technology departments earnestly popularized new technology among the peasants and introduced fine varieties of crops. This created favorable conditions for increasing grain production. Commercial and supply and marketing departments energetically provided market information for the peasants, did a good job in doing service work before and after production, and enthusiastically helped the peasants solve their difficulties in buying and selling products.

The region's peasants expressed appreciation for the party's good policy. Bearing the state's support in mind, they actively sold their grain, oil, and other agricultural and sideline products to the state. Many peasants would rather sell their products to the state at low prices than in the free market at high prices. They were able to correctly handle the relationships of the interests between the state, the collective, and the individual.

Last year, the contributions of the region's peasants (including those on agricultural and pastoral farms) to the state are as follows:

[Table on following page]

<u>Product</u>	<u>1983 Output</u>	<u>1982 Output</u>	<u>Percentage of Increase</u>
Grain	778.25 million jin	639.74 million jin	21.7
Edible oil	16.04 million jin	10.75 million jin	49.2
Eggs	4.1 million jin	3.62 million jin	13.3
Honey	4.99 million jin	1.3 million jin	283.9
Red and black melon seeds	4.54 million jin	1.91 million jin	137.7
Apples	9.37 million jin	8.44 million jin	11
Hog bristles	46,100 jin	38,100 jin	21
Fur	36,100 sheets	23,300 sheets	54.9
Chinese medicinal materials	12.38 million yuan	7.27 million yuan	70.3
Day lilies	350 piculs	115 piculs	204.4

CSO: 4007/80

SOIL CONTROL PROGRESS IN SHAANXI

OW151238 Beijing XINHUA in English 1225 GMT 15 Feb 84

[Text] Xian, 15 Feb (XINHUA)--Work on a soil erosion control program along the Wuding River, a major Yellow River tributary in Shaanxi Province, is going well, according to provincial officials.

By the end of last year, 80,600 hectares of land had been afforested, 21,300 hectares planted with grass and 5,000 hectares of farmland improved. The total areas put under control has been extended to 1,100 square kilometers, 33 percent more than the annual target.

The Shaanxi part of the Wuding River basin covers an area of 21,600 square kilometers. About 270 million tons of silt, actually top-soil, was washed into the Wuding River and carried into the Yellow River every year, making this area one of the most seriously affected by soil erosion in the middle reaches of the Yellow River.

In 1982, the state designated the area as a main target of erosion control. Beginning in 1983, special funds were appropriated to support the anti-erosion program while collective and individual efforts are encouraged in tree and grass planting and in building water control projects.

The first phase of the program involves building water and soil conservation projects in the basins of 170 small streams and gullies in the Wuding River valley. When the program is completed in eight years, 36 percent of the Wuding River basin in Shaanxi Province will be put under control.

Other areas along the upper and middle reaches of the Yellow River suffering from soil erosion were also worked on over the years. At the end of 1983, some 1.14 million rural households were involved in planting trees and grass or building conservation projects in soil erosion affected areas.

CSO: 4020/80

BRIEFS

FARMLAND, WATER CONSERVATION--Shaanxi Province made new achievements in farmland and water conservation last year. According to statistics compiled in the first 10 days of December 1983, last year, the province leveled 314,000 mu of land in the irrigated areas; built some 380,000 mu of fields, 45,000 mu more than in the same period of 1982; took water and soil conservation measures to regulate 3,500 square meters of land, which was 34.6 percent more than the annual quota; enlarged irrigated areas by 157,000 mu; improved 75,000 mu of fields so that a good harvest can be guaranteed irrespective of drought and flood; and completed 3 million cubic meters of earth- and stone-work and concrete work for 8 large and medium-sized water conservation projects. By the middle of December, Hanzhong Prefecture had repaired some 20,000 mu of fields which were damaged by floods. [Summary] [HK091535 Xian Shaanxi Provincial Service in Mandarin 0500 GMT 6 Feb 84 HK]

INDIVIDUAL ECONOMY DEVELOPS--The individual economy in the urban and rural areas in Shaanxi Province has greatly developed. By the end of last year, the province had 123,000 individual undertakings with 149,000 workers. The total volume of their business reached 210 million yuan. [Summary] [Xian Shaanxi Provincial Service in Mandarin 0500 GMT 8 Feb 84 HK]

CSO: 4007/80

SHANDONG

BRIEFS

RURAL SAVINGS DEPOSITS--At the end of 1983, the total savings deposits of 2,107 credit cooperatives in Shandong Province reached 6,346.07 million yuan, an increase of 38.9 percent over 1982. Of this, the rural savings deposits totaled 4,763,750,000 yuan, an increase of 49.6 percent over 1982. The per capita savings deposits of agricultural population increased from 47.92 yuan in 1982 to 71.6 yuan. In 1983, credit cooperatives extended 3,919.28 million yuan in loans, an increase of 40.5 percent over 1982 and 94.4 percent of loans were paid back. [Text] [Jinan DAZHONG RIBAO in Chinese 18 Jan 84 p 1 SK]

COMMODITY PURCHASE, SALE--The total value of commodity purchase and sale of supply and marketing cooperatives across Shandong Province in 1983 increased by 15 percent and 7 percent respectively over 1982, surpassing the previous peak. The profits earned during the year reached 290 million yuan, the best figure in 4 years. [Excerpt] [Jinan Shandong Provincial Service in Mandarin 2300 GMT 3 Feb 84 SK]

PROVINCE AFFORESTATION--In 1983, Shandong Province afforested 1.18 million mu of land; planted 210 million trees around houses and along rivers, roads, and ditches; cultivated 66 million mu of saplings; built 3.27 million mu of economic forest belt; and planted 1.5 million mu of trees on ridges. The tree survival rate reached over 70 percent. So far, this province has 220,000 specialized tree planting households. [Summary] [Jinan Shandong Provincial Service in Mandarin 2300 GMT 3 Feb 84 SK]

CSO: 4007/80

AFFORESTATION MAKES PROGRESS IN SICHUAN

OW251226 Beijing XINHUA in English 1208 GMT 25 Feb 84

[Text] Chengdu, 25 Feb (XINHUA)--A program to cover 666,000 hectares of land in hilly Sichuan Province with fast-growing trees is under way.

In the last three years, 86,000 hectares of pines and Chinese firs have been planted in the eleven key areas marked out for afforestation, and some of the tree saplings have grown into young forests, according to provincial forestry department officials.

Timber is in short supply in Sichuan Province which has a population of 100 million. So far most of the timber needed by the province comes from the virgin forests on the plateaus in the northern and western border areas of Sichuan, and the accelerated tree felling there threatens to further diminish timber resources.

In the current afforestation drive, most of the tree saplings will be planted in the hilly and mountainous areas surrounding the low-lying basin in the central part of the province. The favorable climate and abundant rainfall there will enable the young saplings to mature in 15 to 20 years, as against scores of years required on the plateaus rising up to 3,000 to 4,000 meters above sea level.

Thus the present afforestation program will help change this imbalance in the distribution of timber reserves, ease the tension in timber supply, help control soil erosion and restore ecological balance, officials of the provincial forestry department said.

CSO: 4020/80

BRIEFS

AGRICULTURAL PRODUCTION--In cotton and tangerine production, Sichuan Province fulfilled the target specified by the sixth 5-year plan 2 years ahead of schedule. The province's gross agricultural output value was estimated to reach 24.3 billion yuan and would be 1 billion yuan more than in 1982, an increase of 4 percent. The rural gross and net income were 9.2 and 8.9 percent, respectively, more than in 1982. The per capita net income increased by over 15 yuan. The province reaped a bumper grain harvest for 7 consecutive years. The province's gross grain output in 1983 reached 76.7 billion jin, an increase of some 2 billion jin over 1982. [Summary] [Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 31 Jan 84 HK]

CSO: 4007/80

POTENTIAL FOR AGRICULTURAL GROWTH ANALYZED

Beijing NONGYE JISHU JINGJI [ECONOMICS FOR AGRICULTURAL PRODUCTION TECHNOLOGY] in Chinese No 10, 1983 pp 6-10

[Article by Zhang Xuemian [1728 1331 0517], Department of Economics, Xinjiang Ba Yi [August 1st] Agricultural College: "An Examination of the Rate of Xinjiang's Agricultural Development"]

[Text] The 12th CPC Congress established the struggle objective of quadrupling gross national industrial and agricultural output value by the end of this century. Guided by the spirit of this congress, relevant central agencies have made concrete plans and set average annual growth rates for China's agriculture for each of the next 2 decades. Since China is characterized by tremendous local diversity, one cannot expect all provinces, municipalities and agricultural sectors to advance side by side at the same speed. Variance from the national average is unavoidable. What rate, then, is appropriate for Xinjiang over the next 20 years? Can the autonomous region exceed the national average? Can the region's gross agricultural output value be quadrupled? These are the questions this article will explore.

I

Xinjiang possesses vast expanses of land and is rich in resource reserves. The region's agricultural productivity is low, its potential for growth is great and it has been slated as a key area for development. The region's agricultural growth rate may well exceed the national average, a possibility that is due to the following factors.

1. In Terms of Resources, Xinjiang Enjoys Exceptional Natural Advantages

Xinjiang has 47.72 million mu of cultivated land, which comprises only 2 percent of the region's total area. The region's per capita land ratio of 3.7 mu is 1.5 times greater than the national average, and there are approximately 100 million mu of exploitable reserve land resources, an advantage that is rare in China. Thus future agricultural expansion can be achieved both by improving land productivity and yields and through appropriate development of land resources and expanding arable area.

Xinjiang typifies the interior arid zone. The amount of water resources and the way in which these resources are utilized influence the speed of the

region's agricultural growth. According to data from Xinjiang's water conservancy agencies, there is an average annual surface water runoff of 90.9 billion cubic meters and 20 billion cubic meters of useable groundwater in the region. Excluding 22.4 billion cubic meters which flow across foreign borders, there are 88.5 billion cubic meters of exploitable water resources, nearly equivalent to the annual flow volume of the Huang He. Of the total, 43.78 billion cubic meters, or 48.1 percent, are currently in use; thus one-half of the region's water resources remains to be developed. Furthermore, there is little annual fluctuation in the region's water resources, the differential between dry and flood years being less than 2.5 times. This facilitates stable growth in agricultural production. Of water resources currently in use, the average utilization rate is very low, 35 percent; and the gross irrigation rate reaches 11.5 million cubic meters per mu. By contrast, the Shihezi area, which is more advanced, has attained a utilization rate of 55 percent and reduced its gross per-mu irrigation rate to 700 cubic meters. There remains much potential, therefore, for increasing the utilization rate of water resources through such measures as strengthening irrigation management, prevention of ditch seepage, land leveling and improved irrigation technology.

Solar resources are abundant, daylight hours, long and day-night temperature differentials, large. All of this facilitates photosynthesis and increases crop yields. Xinjiang has registered small-scale per-mu yields of 300-plus jin for ginned cotton, 1,600-plus jin for wheat and paddy rice and 2,000-plus jin for corn and alfalfa. Numerous large-scale models of high productivity have also emerged. In 1965, for example, the 410,000 mu in the Ma'nasi reclamation district produced an average of 115 jin of ginned cotton, and 80,000 mu in Miqan County produced an average of more than 800 jin of paddy rice during a single season. The abundance of solar resources also insures the high quality of Xinjiang's agricultural products. Comparing the same variety of cotton produced in Xinjiang and the Chang Jiang and the Huang He valleys, Xinjiang's bolls are 11.2 percent and 6 percent heavier, its staple is 2.4 and 6.5 percent longer and its gin outturn, 2.8 and 6.7 percent greater than those of the other two regions, respectively. Each year, over 80 percent of the cotton produced throughout the region is ranked grades one and two, a rate that leads the nation. And locally produced sugar beets have sugar contents of over 17 percent and sugar yields of more than 14 percent, rates that also lead the nation.

2. Many of Xinjiang's Economic Indicators Are Quite Backward, Evidence That Much Potential Remains To Be Tapped

Xinjiang's average per-mu grain yield was only 231 jin in 1979 and 249 jin in 1980. During the 30 years since Liberation, the region's per-mu yields rose by only 3 jin annually, compared to the national average of 7. Nevertheless, the region's gross agricultural output value increased by 5 percent a year, which is faster than the national rate of 4.3 percent. In the future, if Xinjiang focuses its policy on improving yields and productivity, growth rates in agricultural output value may well increase.

Rationalizing the product structure will also help accelerate Xinjiang's agricultural development. The region is suited to animal husbandry and such cash crops as cotton, sugar beets, melons and fruit. In the future, we need only to follow the principle of "upholding our strengths, avoiding our weaknesses and making full use of our advantages." While adhering to the basic policy of maintaining self-sufficiency in grain, we can accelerate agricultural growth generally through vigorous development of cotton, other cash crops and animal husbandry. The higher prices earned by cash crops, moreover, will further increase output value. For example, between 1978 and 1981, the cotton sown area rose from 2,256,000 to 3,479,000 mu; yields, from 49 to 65 jin; and total production, from 1,099,000 to 2,272,000 dan, an average annual rate of 27.4 percent. Consequently, the output value of cultivation rose at the stable and rapid rate of 7.9 percent.

3. Xinjiang Has a Definite Technological Foundation

Xinjiang enjoys a high level of agricultural mechanization. The region possesses 1 billion yuan worth of agricultural machinery and, as of 1980, maintained 29,284 large and medium tractors, an average of 6.12 per 10,000 mu of arable area. The mechanization rate has reached 64, 52 and 22 percent for plowing, sowing and reaping, respectively, levels that are higher than those of many areas in China. This forms the material basis for accelerating Xinjiang's agricultural development.

Xinjiang has a small population (approximately 13 million) and cultivated area. Yet the region has three regular agricultural colleges and two agricultural research agencies (one run by the army, the other by the region). All the graduates are retained in the region, and some college graduates from other parts of China are also assigned here as well. Thus, in terms both of cultivated area and population, there is a high ratio of agricultural college graduates, who comprise a technological force that should not be overlooked. If we give full play to their initiative, they should make fitting contributions to Xinjiang's agricultural development.

Xinjiang also benefits from the key examples set by state farms, which account for nearly one-third of the region's agriculture. Of these, army farms have the best material foundation and the greatest technological strength. Compared to the regional average, these farms are more mechanized; their farming techniques, more advanced; and their labor productivity, rate of commercialization and yields, higher. Many advanced techniques such as cotton cultivation with plastic film mulching were first employed and extended in army farms. Giving full play to army farms' roles as key models, therefore, will accelerate Xinjiang's agricultural development.

II

Xinjiang's agriculture possesses the proper conditions, and perhaps also needs, to develop more rapidly. But the question remains: how fast? Some comrades feel that, given its low starting point, its large potential and its abundant resource reserves, the region can quadruple agricultural output value by the end of this century and that, indeed, even greater increases are possible. I believe this view merits further examination.

"Gross agricultural output value" primarily denotes the aggregate value of goods directly produced by agriculture, forestry, animal husbandry, sideline occupations and fishery. According to current accounting regulations, that value includes neither the value added to such goods when they are processed at the brigade level or above nor the output value of commune and brigade enterprises and industry run by state farms. Barring changes in prices or product mix, we must quadruple the output volume of every agricultural sector in order to achieve a corresponding increase in Xinjiang's gross agricultural output value. In addition, there are many other problems that must properly be resolved.

First, in order to quadruple production, gross agricultural output value must increase at an average annual rate of 7.2 percent between 1980 and the end of the century. Yet since Liberation, even though Xinjiang's agricultural growth was greater than the national average, the annual rate was only 5 percent. The 1949 base figures, moreover, were unusually low. If we use those for 1952, which reflect 3 years of recovery, the annual increase over the ensuing 27 years was only 4.38 percent.

In addition, a major factor contributing to Xinjiang's higher growth rate was extensive land reclamation and expansion of cultivated land area. Between 1949 and 1980, the cultivated area rose from 18,146,000 to 47,726,000 mu, a net increase of 29.58 million mu that is responsible for 63 percent of the total rise in grain production. Further agricultural development will require appropriate increases in cultivated area. Yet reclamation will be more difficult than in the past (because most of the land that is easily reclaimable and possesses exploitable water resources has already been developed) and require much greater investment. Prior to the "Cultural Revolution," the army production and construction corps' reclamation investment quota was 400 yuan per mu. Based on this figure and the Xinjiang Planning Committee's proposal, cultivated area will rise by 25 million mu, which expansion will require an investment of 10 billion yuan, or 500 million yuan per year. If inflation and wage increases are taken into account, the quota of 400 yuan per mu may not be attainable. Yet even if it is, an annual investment of 500 million yuan will cause tremendous financial strain on a region that has only 300-400 million yuan in revenues yet 1.6-1.7 billion yuan in outlays. Although Xinjiang's agricultural production conditions have improved since Liberation, nearly one-third of all arable area consists of saline-alkali soil, the unequal seasonal and regional distribution of water resources remains pronounced and soil fertility is universally low. Large and extensive improvements in productive conditions, therefore, cannot be achieved overnight. These factors will limit improvement in productivity. Nationally yields have risen by an annual average of 7 jin per mu, while France, which has experienced the highest yield increases in the world, still managed a rate of only 13 jin. Gradual improvement in agricultural productive conditions and further liberalization of the rural economic policy might enable Xinjiang to maintain annual increases of 9 to 10 jin per mu and achieve average grain yields of 420 to 440 jin (based on sown area) by the end of the century. And if the grain sown area rises slightly from the current 32 million to 34 million mu by the end of the century, total grain output will increase at a rate of only 3 percent a year.

Secondly, readjustment of the product mix is an important means of increasing output value. In recent years, especially since the Third Plenum, Xinjiang has appropriately reduced its grain area, increased the sown ratio of cotton and other cash crops and thus further raised gross agricultural output value. Nevertheless, it should be recognized that once readjustment has occurred and the product structure is rationalized, further readjustment will no longer prove so easy. Thus, in the long run, the readjustment of the product structure will achieve good results only during the first few years.

Product mix readjustment is also limited by several other factors. Since Xinjiang is naturally suited to economic crops, all effort should be made to cultivate more cotton, sugar beets, melons, fruit and the like. On the other hand, the limitations of the environment, transportation and geographical location necessitate regional self-sufficiency in grain. Future population growth, development of animal husbandry and improvement in standards of living require expansion, not reduction, of grain output. In order to improve productive conditions and the ecological environment, the area sown to alfalfa, green manure, forests and grass must be expanded. And with the irrigated area slated to increase by only 25 million mu by the end of the century, cotton and other commercial crop areas perforce will be limited. Assuming that the cotton area increases from 2.72 million mu in 1980 to 10 million mu by the end of the century, and cotton yields rise from 58 to 100 jin per mu; that sugar beet area increases from 360,000 to 1.4 million mu, and yields, from 2,117 jin to 4,000 jin; that alfalfa area rises from 2.87 million to 10 million mu; green manure, from 1.7 to 5 million mu; and other cash crops, from 1.91 to 3.4 million mu--assuming all this, it is tentatively estimated that cultivation output value will grow by only 4.5 percent a year. If 10 million mu are sown to cotton by the end of the century, that crop will comprise 17.6 percent of Xinjiang's total cultivated area. And when one considers the fact that a substantial part of the region (such as Altay Prefecture and the Zhaosu area, which have alpine climates, short frost-free seasons and insufficient solar resources) is unsuited to cotton, cultivation of that crop will be concentrated in a few places, in which the crop's sown area will reach 25 to 30 percent. Under these conditions, further expansion of cotton cultivation will hinder the extension of rotation, improvement of soil fertility and development of many other forms of land management.

In order to develop animal husbandry, raise soil fertility, integrate agriculture and animal husbandry and improve the ecological environment, we must vigorously expand the cultivated areas of alfalfa and green manure to achieve appropriate mix ratios for these crops. According to technological requirements, alfalfa ideally should comprise between 20 and 25 percent of the region's total cultivated area. However, an appropriate reduction can be made in areas surrounding cities and towns, where there are other sources of manure. If we assume an adjusted ratio of 18 percent, the crop's cultivated area should reach 10 million mu by the end of the century. Yet alfalfa is not worth very much. Based on constant 1980 prices, its per-mu output value is only 11.25 yuan; green manure earns only 6 yuan. These two values are lower than those of any other crop. The expansion of alfalfa and green manure production, therefore, will directly retard the rate of increase in Xinjiang's agricultural output value. Naturally, cultivation of these two crops also stimulates

agricultural and animal husbandry production, thus serving indirectly to increase agricultural output value. These increases and reductions partially offset each other and will cause the rise in agricultural output value to be a little slower than people might expect.

Xinjiang possesses vast grassland resources, and the development of animal husbandry represents one of the region's strengths. Through effort, this development can be accelerated, and this sector's output value may rise faster than that of cultivation. Sideline occupations, on the other hand, will expand more rapidly than any other sector once policy is further liberalized. Nevertheless, due to low base figures, even if the output value of animal husbandry quadruples and that of sideline occupations sextuples, it is estimated that gross agricultural production value will increase by no more than 6 percent annually.

Vigorous afforestation and development of forestry production are important ways to raise forestry production, improve the region's ecological environment and increase peasants' income. Nevertheless, forestry development will make little contribution to increasing agricultural output value. For, according to current accounting regulations, forestry output value may include only sapling raising, afforestation, single-tree planting, regeneration, tending, lumber and forestry products. Of these, saplings have a high output value (312.5 yuan per mu, in constant prices), are already widely grown (225,000 mu) and thus account for a large proportion--60 percent, according to the Xinjiang Statistics Bureau--of the region's forestry output value.* Thus even though we must plant many trees and increase forest cover, the seedling sown area by no means requires a corresponding expansion. The rate of increase in forestry output value, therefore, will be limited. Forestry departments estimate that by the end of the century, even if the afforested plain area increases from 2.89 million to 8.89 million mu and lumber production rises from 180,000 to 1 million cubic meters--a 5.6-fold increase, much greater than a quadrupling--the fact that the seedling area will be maintained at the current level of approximately 200,000 mu will limit growth in forestry output value to a mere 1.52 percent. On the basis of current accounting regulations and constant prices, forestry development will do little to increase gross agricultural output value.

The expansion of commune and brigade enterprises; the development of agricultural-, forestry-, animal husbandry- and fishery-products processing and comprehensive utilization; and the integration of agricultural and industrial management will greatly increase output value. Greater levels of processing and comprehensive utilization will accelerate growth in gross output value. Nevertheless, current accounting practices do not treat goods processed by brigade and commune enterprises as agricultural output. Processed agricultural goods can only increase the gross output value of industry and agriculture, taken together as the general national economy, and thus these goods facilitate quadrupling in this area but have no direct influence on agricultural output value.

*Once technology has been improved, we must steadily raise the quality of afforestation work and increase the tree survival rate.

Third, the history of the economic development of China and other countries indicates that the output value of industry rises faster than that of agriculture. When the latter increases by 1 percent, the former generally rises by 1.5 to 2.5 percent. Since Liberation, Xinjiang's agriculture has grown at an average annual rate of 5 percent, while industry has expanded by 12.9 percent. The ratio between these growth rates is 1:2.58. In order to quadruple the gross output value of industry and agriculture by the end of the century, the gross output value of industry must increase by more than 7.2 percent each year, while that of agriculture can be less than 7.2 percent. It is unreasonable to expect that all sectors must achieve the same growth rates; for, given Xinjiang's developmental experience, should agriculture also quadruple and attain an annual growth rate of 7.2 percent, industrial growth would reach 18 percent. By the end of the century, the region's gross output value in industry and agriculture thus would be 105.8 billion yuan, an 18-fold increase over 1980. This rate, much greater than a quadrupling, obviously is impossible.

In summary, although Xinjiang's agriculture possesses the proper conditions to achieve growth rates higher than the national average, a quadrupling of the region's gross agricultural output value is improbable. I believe that we will have done very well if we can manage a rate between 6 and 6.5 percent.

III

Although Xinjiang's agriculture can achieve a growth rate higher than the national average, a series of strong and effective measures is necessary in order to insure that that possibility is realized. Otherwise, such a growth rate will never be attained.

In terms of strategy, we must stress the following areas.

First, we must further liberalize and implement all aspects of the rural economic policy, maintain continuity and stability in that policy and fully mobilize the productive initiative of the broad masses of peasants. This will insure the conditions necessary for the continued, stable and rapid development of Xinjiang's agriculture.

Second, we must increase investment in agriculture and steadily improve productive conditions. We must emphasize the development and rational use of water resources; soil improvement, especially low-yield saline-alkali soil, which covers one-third of the region; and vigorous planting of trees and grass and making rational use of existing grasslands.

Third, we must develop knowledge and raise the cultural level of the broad masses of Xinjiang's peasants and herdsmen as rapidly as possible. At the same time, we must adopt effective economic measures to stabilize the ranks and make the most of our agricultural technicians.

Fourth, we must strive to control demographic growth. Compared to the rest of the nation, Xinjiang is vast and sparsely populated. Nevertheless, the region's demographic growth rate is much higher than the national average. Since Liberation, the national population grew onefold, Xinjiang's, twofold,

at an average net annual rate of 3.7 percent. Population growth has prevented realization of some areas' natural advantages. For example, southern Xinjiang is more suited to cotton cultivation than is northern Xinjiang. Nevertheless, population growth has made food supplies the south's primary concern. Thus in recent years, most of the expansion in cotton sown area has occurred in the north, while the south has failed to make full use of its natural advantage.

12431

CSO: 4007/55

MORE VETERINARY TECHNICAL PERSONNEL IN XIZANG

OW290906 Beijing XINHUA in English 0845 GMT 29 Feb 84

[Text] Lhasa, 29 Feb (XINHUA)--The Tibet Autonomous Region, one of the five major animal husbandry centers in China, now has 9,700 animal husbandry and veterinary technical personnel to serve the development of its livestock breeding, according to the regional animal husbandry department.

Ninetyfive percent of them are of Tibetan or other minority nationalities.

During the past decades, the central government sent competent veterinarians from other parts of the country to the region to treat livestock and train local personnel in veterinary science.

With their help the region has set up an agricultural and animal husbandry college to train local school graduates. In addition, many young Tibetans and those from other minorities have been sent to Beijing and other provinces to study animal husbandry and veterinary science.

Veterinary stations and sub-stations have been established in all counties and districts of Tibet. Some 8,800 people are working at grassroots units.

The local veterinarians have applied what they learned to treating the animals, combining the merits of Tibetan medicine and Western medicine. For example, Yexe, and his colleagues in Ngari Prefecture used more than 40 medicinal herbs collected in the region to treat livestock with good results.

A veterinary group in Gonggar County has introduced artificial insemination methods to improve the breed. The resultant cross-bred calves average 2.8 kilograms heavier than the local breed at birth and milk output is also higher.

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HOHHOT MEETING ON PROGRESS OF 'GREAT GREEN WALL'

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[Text] Hohhot, 21 Feb (XINHUA)--Some 6.6 million hectares of farmland menaced by wind and sand storms are protected by tree shelter belts planted in the past six years, according to a meeting on the planting of the shelter belts now in session here.

The trees are part of a giant shelter belt project known as the "great green wall" which is planned to extend 7,000 kilometers from northeast to northwest China.

Chen Guangwu, vice-director in charge of the project, said that seven million hectares of trees were planted between 1978 and 1983, with a survival rate of 55 percent. So far the tree planting quota set for the first phase of the project 1978-1985 has been overfulfilled. More land was covered with trees in the past six years in this part of the country than in the 28 years prior to 1978.

In some areas within the projected area, the trees have formed networks and, together with shrubs and grass, they have reduced wind force and improved micro-climate.

On plains, tree belts criss-cross farmland in a checkerboard pattern while on the edge of deserts, whole tracts of land have been afforested. The young forests, together with tree belts, intercept the shifting sand.

In the basins of seven rivers and tributaries, the trees and grass planted have helped control soil erosion. Eighteen percent of the land area in the basins are now covered by vegetation against 12 percent previously.

In some areas in north and northeast China, shelterbelts reduce wind speeds by 20-30 percent, and help lower evaporation rates by 10-20 percent.

Hotan County on the southern edge of the Taklimakan desert, China's largest, reports that its frost-free period has increased by 18 days a year after the county completed the first stage of its tree planting project.

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BRIEFS

WATER-CONSERVANCY WORK--Lhasa, 15 Feb (XINHUA)--The Tibet Autonomous Region, which was hit by an exceptional drought last year, has mobilized 200,000 people, or one fourth of the region's labor force, to work on water conservancy and farmland improvement projects this winter. More than 300 projects, which will irrigate 30,600 hectares, or 13.5 percent of the region's cultivated land have so far been completed. More than 17 million yuan and a large amount of building materials have been allocated for the projects since last year. The water conservancy projects include building reservoirs, digging irrigation canals and putting in pumps to bring underground water to the fields. Tibet, in general, has a dry climate. The annual evaporation rate is five to ten times the precipitation on the plateau. Last year's severe drought not only reduced grain output, but also caused a shortage of pasture grasses. The Central government shipped a large amount of fodder to Tibet from inland provinces so that livestock in the drought affected areas could tide over the winter. [Text] [OW151427 Beijing XINHUA in English 1325 GMT 15 Feb 84]

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